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WORLD MARITIME UNIVERSITY
MALMO, Sweden

Marine Accident Investigation
A Proposal for Algeria

by

MOKAREM Yahia

ALGERIA

A dissertation submitted to the World Maritime University
in partial fulfilment of the requirements for the award
of the:

Degree of Master of Science
in
General Maritime Administration

1991

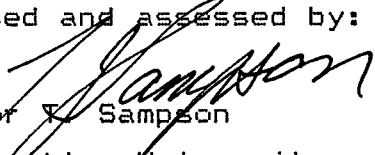
I certify that all material in this dissertation which is not my own work has been identified and that no material is included for which a degree has been previously conferred upon me.

The contents of this dissertation reflect my personal views and are not necessarily endorsed by the University.

Signature.....

Date. 11.10.91...

Supervised and assessed by:


Professor T. Sampson
World Maritime University

Co-assessed by:

Eric Snow
Principal Investigator
Canada Transportation Accident
Investigation and Safety Board.

DEDICATION

TO MY MOTHER WHO BROUGHT ME INTO THIS WORLD AND DID
EVERYTHING IN HER POWER TO MAKE SURE I WAS
HEALTHY, COMFORTABLE AND CONTENTED
TO MY WIFE AND MY CHILDREN
REDA, SOFIANE AND HANANE
WHO
SUFFERED FROM MY ABSENCE.

ACKNOWLEDGEMENTS

One of the most pleasant tasks in writing this dissertation is to acknowledge all those who have assisted and contributed to its completion. They have been many and have contributed greatly.

First of all I owe special debts of gratitude to my country for having given me the opportunity to attend the two year course at the World Maritime University.

For general guidance during the course, I extend my heartfelt thanks to Professor T. Sampson, my course professor, and Yves Boixel, my lecturer; their doors were always open.

The efforts of visiting Professor Capt. L. Colucciolo, Chief Marine Casualty Investigation Division, NTSB, Washington and Dr. Frank L. Wiswall, Bureau of Maritime Affairs, Reston, Virginia, were greatly appreciated for offering knowledge into the accident investigation process from two most interesting perspectives.

Professor Edgar Gold of Dalhousie University, Halifax Nova Scotia, who reviewed my first draft and offered helpful suggestions, was most helpful, as was Mr. Brian Thorne, Director of Marine Casualty Investigation, Ottawa, Canada, who shared his guidance and kindness with me during my On-The-Job-Training in Canada.

Particular thanks go to Miss Teresa for having accepted the task to correct my written English, and to the fine staff at the library who always managed to smile and then find the requested material one way or the other.

There are of course a number of other people who deserve my thanks, including my colleagues who have managed to bring me back on track when I went too far adrift.

ABBREVIATIONS

AMC	Algerian Maritime Code
NSCG	National Service of the Coast Guard in Algeria
MMD	Merchant Marine Directorate in Algeria
SAR	Search and Rescue
CSC	Central Safety Commission
LCI	Local Commission of Inspection
IACS	International Association of Classification Societies
ILO	International Labour Organization
IMO	International Maritime Organization
MARAD	Maritime Administration
MARPOL 73/78	International Convention for the Prevention of Marine Pollution from ships, 1973 as modified by the 1978 Protocol related thereto
NASAN	National Swedish Administration of Shipping and Navigation
WMU	World Maritime University
USCG	United State Coast Guard
NTSB	National Transportation Safety Board

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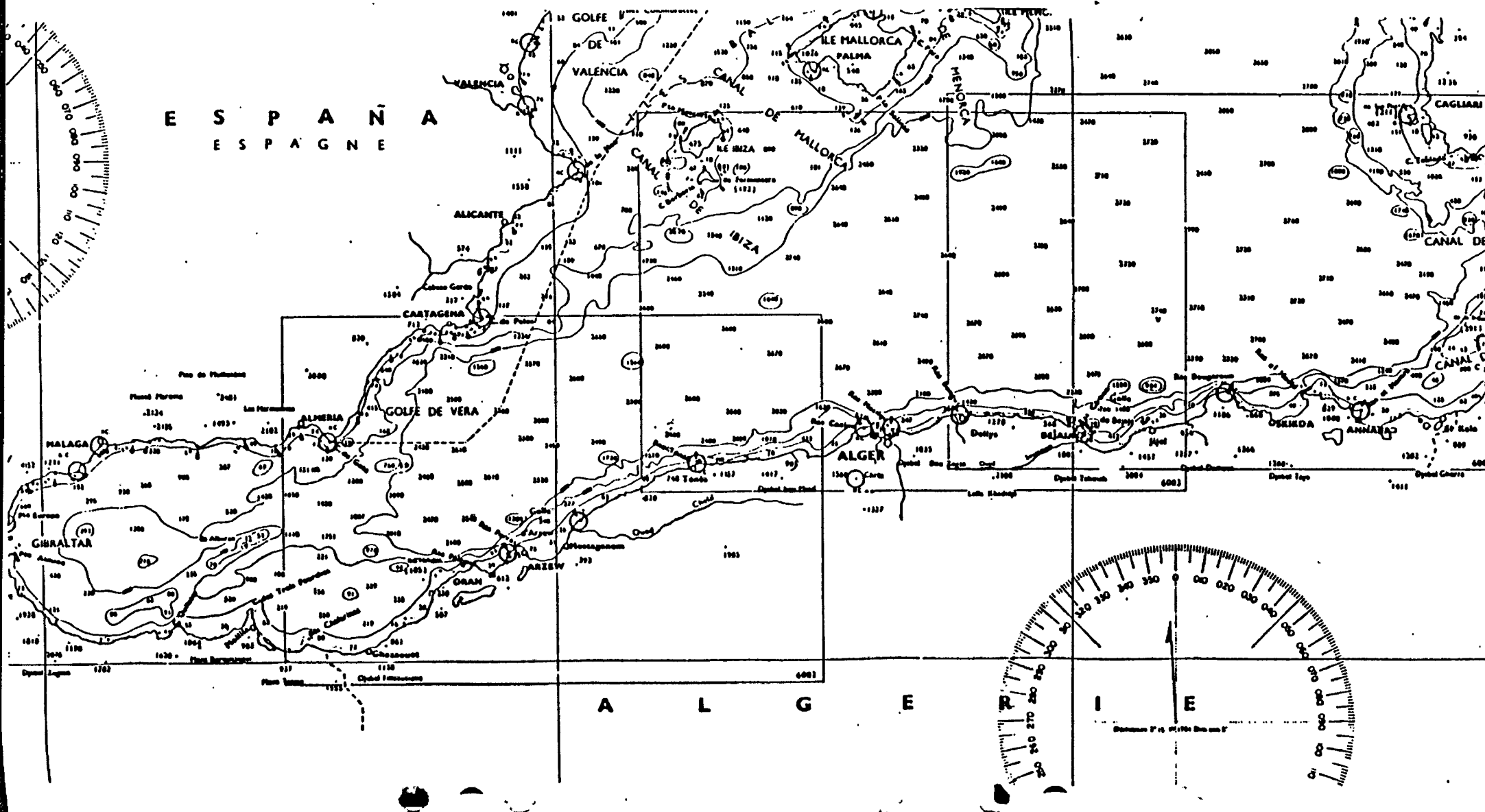
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CHAPTER I

INTRODUCTION

1. Choice of the subject.

I have been thinking about vessel casualty investigations, since I previously carried out some small fishing vessel accident investigations. Although I had the responsibility, I needed some added knowledge as to how, why, and what to investigate.

During my studies, reflecting on my earlier experiences with fishing vessel accidents, I became very interested in vessel casualties investigation methods. While studying these casualties, it occurred to me that many of the mistakes leading to accidents and incidents at sea seemed to be repeated, time and time again. As my readings continued, they brought home to me that to avoid such repetition of accidents, careful investigations needed to be carried out which could identify the cause of marine casualties, and develop appropriate remedial action.

To illustrate what I have said, I will mention some accidents which have occurred in recent years in Algeria, types of accidents which continue to occur. These include:

-Twenty six seamen died when the RO-RO motor vessel "COLLO" sank following a collision with the Italian RO-RO motor ferry "ESPRESSO MARILEN" 60 miles east of Cabos de Palos, near Cartagena, Spain, on October 4, 1978. Only four survivors were picked up from the thirty man crew of the Algerian vessel.

-Two crew members died when the vessel "TABLAT" caught fire on May 3, 1985. The ship was damaged by fire in the crew accommodation spaces and the engine room. The

fire was extinguished with assistance on May 4, 1985 and the vessel was taken in tow to Marseilles, and was subsequently towed to Valletta. There she was repaired and sailed on June 4, 1986.

-On September 30, 1986 the Algerian grain carrier "Nedroma" caught fire during the unloading operations in the port of Oran.

-The Algerian RO-RO, motor vessel "TOLGA" caught fire during the early hours of July 20, 1987, near les Fratelli Islands, of Tunisia. The crew abandoned ship, being safely rescued, while their blazing vessel was towed by Tunisian and Algerian tugs to Bizerta. However, due to her rapid deterioration and heavy list, the port authorities decided to remove her from Bizerta. The TOLGA was then towed out and deliberately sunk on July 23, in lat: 37 45' North and long: 009 49' East.

-On December 23, 1988 a fire-explosion was occurred on board the tanker "Delawa" 65000 GRT, in the port of Arzew.

-The tanker "Skikda" caught fire on January 21, 1990 in the engine room in the port of Arzew.

-A major fire on the Algerian cargo vessel "Bechar" on June 6, 1990 destroyed the cargo in the port of Oran.

-Five persons died and two were injured from the crew of the gas carrier "Acina" as a result of fire on December 18, 1990. The vessel was finishing loading in the port of Arzew in Algeria.

-The tanker "Janna" caught fire on 26 February, 1991

during the connection of the flexible pipe in the port of Arzew.

-The grain carrier "San Haris" grounded while she was in anchorage, in the port of Oran, Algeria on March 23, 1991.

-In addition a large number of fishing vessels and leisure-craft accidents have happened between July 1986, and May 1990, resulting in the loss of life of 50 persons.

These statistics are taken from only one district in Algeria, which is comprised of a total of three districts along its coastline. These are respectively from the West to the East of Algeria, Oran, Algiers, and Annaba.

2. Need to change.

While the vessels mentioned above have become part of Algerian maritime legacy, they represent only one fraction of the accidents that have, and are occurring, at sea. In Algeria approximately three times the number of those indicated have been lost in the last decade. Even this figure goes nowhere near describing what is actually happening in the industry, but does go a long way towards indicating that something might be seriously wrong. While this figure also gives some idea of what must be faced, it goes nowhere near explaining how such accidents occurred, how many individuals died or were injured, how much cargo was lost or what damage was sustained by the marine environment. It does, however, give some idea of the dimensions of the problem faced in the industry. The fact is, no one knows just what is happening. For reasons

which will be made clearer later in this dissertation, the vast majority of accidents and incidents occurring at sea are never investigated and far too many are never reported. In our evolutionary process it sometimes seems as though we always work thinking that tomorrow will never come. But, tomorrow does come and the lessons that may have been learned to improve tomorrow's conditions appear to go lost for the want of a valid accident investigation process. Algeria does have a form of investigation process but, whether it is valid and whether or not it is effective in improving safer conditions for our sea-going population, is another matter entirely. Furthermore, when the authority investigating a marine casualty is the same that makes the rules for shipbuilding, operation, inspection, certification and navigation, then the charge of conflict of interests remains difficult to disprove.

On the other hand, the Merchant Marine Directorate in Algeria, with a small tonnage on register, (825,500 Grt. in 1990.) needs not burden itself with two large and fully manned departments of surveyors, one doing regulatory work and the other casualty investigations only, when the latter might be carried out by the existing institution, which is the National Service of the Coast Guard.

It seems apparent that something is wrong with the way we carry out investigations following disasters. Many nations, including Canada, France, Sweden, Australia, and the Netherlands have studied their systems with the intent of identifying needed improvements and changes. Obviously, if all was well, there would be no need to conduct such studies or make such changes.

It seems certain also that the Algerian maritime community has been aware for a long time of devices and procedures which could lead to safer shipboard conditions.

But, up to now it has taken no action to adopt them. This

is because proper investigations are not carried out in the majority of these events, and when they are, either the wrong conclusions are arrived at, or having found the answers, the administration refuses to implement the very recommendations which could help to improve the Algerian situation.

3. Objective of the Study.

Some brief reasons for changing the way Algeria is dealing with vessel accident investigations have been given above. To be clearly understood it is necessary to highlight how they are carried out by the Algerian Maritime Administration, and describe the deficiencies and difficulties faced. However, there are several reasons for this study:

The first reason for this study is to provide a learning process. Not only do I wish to make my reader aware of a condition badly in need of amelioration, but in developing this paper I hope the reader will gain a deeper understanding of what is involved and what might be done to achieve the needed improvements.

My second reason is to present an area of study that is of great concern to my country. It is also the purpose of this paper to provide a comparative analysis of how investigations are carried out in a number of traditional maritime countries. This is to allow the development of useful suggestions, to improve the current situation in Algeria.

This paper is also an attempt to organize and present methods and techniques that aid accident investigations with an emphasis on the safety related aspects of investigations, and some of the disciplinary related aspects. I also intend to provide a brief examination of

the criminal and civil liability related aspects. The last objective of this thesis is to present suggestions from which the alternatives most suitable for improving the situation can be selected.

4. Study.

During my studies at the World Maritime University, many of the debates surrounding safety at sea have always ended up focusing on the reasons for such disasters. As far as my study is concerned it is divided into five chapters which are rather descriptive ones. In chapter one I provide some rationale for my endeavors, review my purposes and explain the importance of this topic.

In chapter two I try to describe the actual situation in Algeria with an emphasis on the Maritime Code.

In chapter three I try to illustrate certain apparent remarks and comments. In so doing, I describe the various parties that may be involved in the investigation process and I emphasize the often apparent negative role which is played by our national maritime administration with respect to investigation. This chapter will also discuss the role of the International Maritime Organization in the global context of maritime accident investigation and safety initiatives.

In chapter four I present some foreign legislation and investigatory practices and procedures. The countries examined will be: France, Sweden, United States of America, and the Federal Republic of Germany. Even though the systems vary to some degree from one country to the other, this chapter has been chosen in order to present a complete, interesting and useful study for my administration.

In chapter five I explain what might be seen as the

best possible accident investigation process that can lead to safer shipboard conditions. At the same time I give some proposals, including some suggestions, which could from my point of view, provide the only reasonable way to improve the actual situation. I also draw some conclusions, offer some alternatives and make some recommendations.

The last part of this study is mainly concerned with the annexes which include:

- the relevant International Conventions with respect to accident investigations;
- The list of International Conventions ratified by Algeria
- The type of casualties and pertinent evidence;
- Format on marine casualty reports;
- Chart of Accident Investigation Process, US NTSB.

In addition, this part also contains some relevant forms which can be used as examples or references.

5. Methodology.

My study is a descriptive one. As such, a major source of information should have been books and textbooks. The series of lectures on marine accident investigation at the World Maritime University were important in leading to my understanding of the functions of marine accident investigation. The clear understanding offered by both permanent and visiting professors made lasting impressions on me. My On-The-Job-Training in Canada and my two years study at the University also led to further understanding of the marine accident investigations in Algeria.

My modest experience in carrying out some fishing vessel accident investigations added a very important dimension to my thinking processes in the writing of this

dissertation. Where possible I reviewed video films on the topic of ship safety and accidents. In addition, magazines and newspapers also contributed to my understanding.

Finally, because of his own personal experience with vessel casualty investigations in the US Coast Guard during 25 years and now professor at the World Maritime University, Professor T. Sampson was able to lead me along various tracks in the development of this dissertation and help shape it into what it has become.

CHAPTER

II

PRESENT

SITUATION

1. ALGERIAN LEGISLATION.

1.1. The Constitution.

Algeria is a Popular Democratic Republic. She is one and indivisible;

- Islam is the state's religion.

- Arabic is the official national language.

- Algiers is the capital of the republic.

- The National emblem, the Seal of State and the National Anthem are defined by the law.

The Algerian Constitution was first enacted in 1976, and has been continuously revised. The latest and important amendments of 1989, laid down a new Constitution based on several enactments. Among the most important of these were concepts of freedom of the press and the right to create Political Associations. The new Constitution law also ensures the participation of citizens in the management of public affairs. Being above everybody, the Constitution is carried out as the fundamental and supreme law.

The legislative power is carried out by the Unique Assembly called: the National Popular Assembly. This Assembly establishes and votes on the laws with sovereignty.

The Constitution empowers the President of the Republic to ratify international conventions and treaties. This power is given in Article 74/11 which stipulates: besides the powers given expressly by other provisions of the Constitution, the President of the Republic enjoys the following powers and prerogatives: "he ratifies international treaties." However, this power is fulfilled according to the conditions established in the Constitution. No treaty is ratified if it is unconstitutional. Indeed, a constitutional council

declares whether or not a treaty, law or regulation is constitutional. The Council makes a declaration through a notice if the laws are not made executive, or a decision if the laws are already binding.

The Constitution is the fundamental law which ensures the rights of the individual and collective freedoms, protects the free choice rule of the people and grants legitimacy to the powers exercised by the government.

The President of the State is elected by universal suffrage. He carries out the supreme magistrature within the limits fixed by the Constitution. He nominates the Head of the Government, which in turn presents the members of his government to the President of the Republic for nomination.

The general will of the people is expressed through the mechanism of equal enfranchisement. This is fully established for both national and local elections, and with equal application to men and women.

1.2. Concerning national laws.

Initiatives concerning matters of law are up to the Head of the Government and to the members of the National Popular Assembly. To be accepted, proposed laws must be put forward by twenty deputies. These proposed laws are submitted to the Ministries's council, and then if approved, laid down in the APN's office. However, the Algerian Constitution clearly spells out that the Assembly alone can enact laws.

Article 123 of the Constitution provides that the treaties ratified by the President of the Republic become national laws. Furthermore, where a provision of an international treaty and a provision of an internal law conflict in any manner, the provision of the international

treaty prevails. This latter provision is very relevant for the marine sector since the maritime legislation of one state may have a significant impact on the ships of other states and the interests of persons outside the borders of that state.

Article 27 of the Vienna convention prohibits a State from invoking the provisions of its internal law as a justification for failing to perform a treaty. Algeria has solved this possible conflict by making international law prevail. According to the aforesaid, Algeria provides a simple legal machinery for the international conventions to become part of the national primary legislation. This is made through the decree of ratification or accession promulgated by the President of the Republic.

Article 57 of the Constitution provides that no one is supposed to ignore the law. Therefore, every person must respect the Constitution and comply with the state's laws. By virtue of this Article, every person under the scope of the ratified convention has the duty and the obligation to comply with its provisions, thus implementing it.

Article 81/3 of the Constitution empowers the Head of Government to monitor and control the implementation of the laws. It states: Besides the powers given expressly by other provisions of the Constitution, the Head of government exercises the following attributions: he makes sure that laws are enforced." For this purpose, the Head of Government is given the power to promulgate the rules and regulations needed for the application of the laws.

Generally, regarding laws, it is stated that a law is valid until that law has been repealed. What has once been decided in the form of a law cannot be changed or repealed except through new legislation.

PROCESS OF IMPLEMENTING LAW

PARTIES INVOLVED

- President
- Assembly's Member
- Government

- Government

- National Popular Assembly

- Governmental Authorities

- Tribunal's Court

- Supreme Court

DECISION PROCESS

Law Initiative

Law Project

Elaborat and Vote of Law

Application of Law

Executive of Law

Reviews of Law

INFLUENCING AGENTS

- Popular Communal Assembly
- Popular Assembly of Wilaya (province)
- Government (Ministries)

- Constitutional Council
- Government
- President of A.P.N.

- President

- President

A constitutional law consists of rules that aim to protect freedom, rights and obligations of citizens. Additionally, constitutional law regulates the work carried out in the Assembly, by the Government, their relations and how they work.

1.3. Maritime Code.

The Algerian Maritime Code was promulgated in 1976. It contains two books divided into parts, chapters and paragraphs. The parts are as follow:

Book I : Maritime navigation and seamen.

Part I : Maritime navigation

Part II : Seamen.

Book II : Shipping operation.

Part I : Shipowners.

Part II : Chartering.

Part III: Carriage of goods.

Part IV : Cargo liens.

Part V : Carriage of passengers and their luggage.

Part VI : Towage.

Part VII: Port handling.

In addition, some articles enable the ministry in charge of the Merchant Marine to provide the necessary acts and decrees in order to resolve any case which may arise and which is not provided for in the Maritime code. Among them, the provisions empowering the Minister in charge of the Merchant Marine to promulgate rules and regulations needed for the implementation of the ratified conventions. Article 224 of the code states: "the

requirements pertaining to the safety of navigation are formulated by the Minister in charge of the Merchant Marine in conformity with the relevant international conventions ratified by Algeria."

As conventions do not cover non-convention ships, the Transport Minister is also empowered to make rules and regulations regulating their safety, inspection and survey. Article 227 stipulates: "the Minister in charge of the Merchant Marine may formulate rules and regulations to regulate the safety of non-convention ships."

1.3.1. Reporting casualty

Casualties or accidents on board are reported by the captain, as is required by Article 604 of the maritime code: "if during a voyage, events happen causing significant damages to the ship and or cargo, or personal injury on board, the captain must within 24 hours on arrival to the first port, submit a detailed ship's protest to the competent authority to that port.

In Article 606 it stipulates: "the authority which has the competency to receive the previous report stated in Article 604 above, is: in Algeria, the Maritime Administrative Authority; abroad, the Algerian Consulate Authority; in a foreign port where this authority is not represented, the master must follow the procedure prescribed in this matter by the local law.

1.3.2. Safety inspection.

The Algerian maritime code provides for three kinds of inspections. These inspections are stated in Article 228 of the Maritime Code. Successively they are defined by Articles 229, 230, 231, 232, such as follow:

The initial inspection: This takes place before the ship is launched, and consists in a complete visit of the structure, the radio-electrical installations, the life-saving equipment, and includes one inspection in dry-dock of the hull and the inside and outside of the boilers.

The periodical inspection: This must be carried out every year or every other year according to the validity of the safety certificates in order to meet all requirements pertaining to safety regulations.

This inspection should, furthermore, include a dry-dock visit.

The additional inspections: Furthermore, when an accident happens or any defect affecting the vessel's safety, the efficiency or completeness of her life-saving appliances or other equipment has been noticed; or whenever any important repairs or renewals have been made; a supplementary inspection shall apply to the vessel. This can be a general or partial inspection.

The departure inspection: This means that the ship can be subjected to an additional inspection before leaving an Algerian port. This inspection can be requested by the shipowner, the captain, or the crew.

All of these inspections mentioned above must ensure that the ship is in a safe condition, fitted for the service for which it is intended, seaworthy and complies with the requirements of the international convention on safety of navigation and safety of life at sea. The safety inspections are carried out by the maritime administrative authority which delivers the safety certificates.

1.3.3. Safety commission

To comply with the requirements of the international conventions, relating to maritime safety navigation, safety of life at sea, health and habitability, and the labor conditions on board the ships, two structures have been established. Article 235 of the Maritime Code institutes these two structures called: Central Safety Commission and Local Commissions of Inspection. The power of the commissions is limited to the implementation of the safety legislation in the port areas only. Outside and including port areas the enforcement of laws is the responsibility of the Coast Guard National Service.

The Central Safety Commission:

This commission has its headquarters nearby the ministry in charge of the Merchant Marine, which appoints by decree the composition and the working rules as stated in Article 236 of the Maritime Code. This commission presided over, either by the Minister himself, or by his representative (usually the Merchant Marine Director) consists of the following members:

- representative of the Transport Ministry,
- representative of the Coast Guard National Service,
- representative of the Telecommunications Ministry
- representative of the Health Ministry, and
- representative of the Shipowners.

Article 237 stipulates the responsibilities of the commission such as follow:

- approve the drawings of new built ships over 500 GRT,
- approve the refounding plans of existing ships,
- review and approve the life saving appliances or any other equipment concerning the material of out-fitting and radio-communications,
- examine the petition appeals against the decisions of the local commissions of inspection.

The local commission of inspection:

This commission has its headquarters nearby every maritime district office, and can meet whenever necessary in any port the ships requiring inspection. The Minister in Charge of the Merchant Marine appoints by decree the composition and the working rules of these commissions as it is stated in Article 239 of the Maritime Code. In addition Article 240 states "abroad the Algerian consulate establishes a provisory commission of inspection of which the composition is as similar as possible to the commission of inspection."

This commission, presided over by the head of the Maritime Affaires Bureau, consists of the following members:

- representative of the Coast Guard National Service,
- Nautical surveyor,
- Engineer surveyor,
- Radio-communication surveyor,
- Doctor of seafarers,
- representative of shipowners.

Article 241 states " the local commission of inspection is competent to carry out those inspections

provided for in Articles 229, 230 and 232 of the Maritime Code. The contents of these latter Articles has been previously mentioned in the sub-paragraph above called "safety inspection." However, within its territorial limits, the local commission is in charge of:

- Approving the drawings and building plans of new ships under 500 Grt,
- carrying out all the regulatory inspections for all ships without any limitation of tonnage,
- Verifying that the ships are in possession of their safety certificates.

1.3.4. Maritime wrecks

Generally, maritime wrecks result from groundings, fires, explosions, capsizings, or any other types of accidents. They represent real hazards to navigation when their height and location are not known to the mariner. Therefore, wrecks should be marked until they are removed by destruction, fragmentation or other appropriate means. However, wreck removal gives rise to many legal issues. For instance, in the case of total constructive loss, or when the removal expenses are higher than the value of the ship, the shipowners prefer to leave the vessel unmoved and to get compensation from the insurance.

The Algerian Maritime Code provides for 26 Articles in respect to wrecks; it gives some definitions of wreck and wreck removal and related expenses. The duty for the shipowner to remove the wreck is contained in Article 368 of the AMC when the wreck constitutes an obstruction or hazard to navigation. However, Article 369 shows some kind of weakness regarding the application of the previous article. In fact, it stipulates: "if the owner does not

appear to take in charge all the expenses regarding the rescue and removal of his wreck, or does not take the necessary actions to remove it, or neglects to do so, the Ministry in charge of the Merchant Marine can pronounce the forfeiture of the property right". That is why the Algerian government has always supported the cost of refloating a wrecked ship.

1.3.5.Prevention of Marine pollution.

Even if in most cases pollution of the sea may occur as a result of an accident, the Algerian Maritime Code does not provide for their investigation. However, from Article 117 to Article 130, the Maritime Code relates to shipowner's liability, and from Article 210 to Article 221 it only deals with the pollution police.

Despite this, the decree defining the prerogative of the Merchant Marine Directorate has clearly indicated that it is up to this Directorate, in cooperation with other concerned organizations, to coordinate further definition and to address the prevention and response to marine pollution incidents.

In addition to the obligation made for all pilots (military personal and civilians), masters, and fishermen to report any case of pollution, an additional ministerial order, as a transitory measure, has been taken to:

- Constrain all ships calling at Algerian ports to report to the Harbour Master, before entering, their positions, the nature of goods carried on board, the nature of defects, if any, etc...

- Delegate a special commission to inspect, before entering the port, any suspect ships which are believed to pose a distinct potential for causing a pollution incident. This commission, which consists of

representatives of the concerned services, was created in order to protect the Algerian marine environment from sub-standard ships.

2. The Algerian Maritime Administration.

2.1. Background and Introduction

The Maritime Administration was established in 1962, the date of independence. Before independence, the organization and the structures of the Algerian Maritime Administration were the same as those of France. Algeria was at that time one of the French Maritime Affairs Directorates. To avoid any breakdown in that existing system (French system), certain fields of responsibility, previously belonging to the French administration, were retained. Therefore, for many years the same organization and legislation has been applied in the new maritime administration.

Throughout the years there have been adjustments to the regulatory system and modification of parts of the organization to address different needs. Finally, after more than a decade of deliberations, the Government adopted a more up-to-date organization which entered into force during 1973.

The changes in the organization consisted of:

- The creation of the National Service of the Coast Guard in 1973, which will be considered in more detail later.

- The establishment of the Directorates of Transport in 1974, in each wilaya, (a wilaya is a regional administrative entity) in accordance with the

administrative division of the country. In fact, the government invested the regional authorities with greater liberty of action so as to give the opportunity for this Directorate to develop the regional and local capabilities

-The development of maritime education and training by the opening of the High Maritime Institute in 1974

-The enforcement of the new Maritime Code in 1976. This is the actual document on which current maritime affairs are based.

-Finally, a Secretary's Office of State in charge of Maritime Transport and Fisheries was created in 1981. But, unfortunately this experience was not successful and the Ministry of Transport once again absorbed maritime matters, whereas the Ministry of Agriculture took charge of fishing matters.

2.2 Organization of the Maritime Administration (MARAD).

The Maritime Code defines in chapter I of Book I the administrative and territorial organization, as follows:

Article 1 : "the Maritime Administration is under the authority of the Minister in charge of the Merchant Marine."

Article 2 : "at the littoral level the Maritime Administration functions are carried out by the Local Maritime Administration."

Article 4 : "abroad the maritime administrative functions depend on the competency of the Algerian

Consulate Authority."

Article 5 : "the national littoral is divided into maritime districts (circonscription), principal stations and stations".

In general terms, the objectives of the Algerian Maritime Administration are to take in charge those functions which are embodied within the Maritime Code. To be able to respond to this obligation, the administration's activities are carried out both at a central level and at a local level. The actual organization has been established as described in the following sections.

2.2.1. The Ministry of Transport: (at the central level)

The Merchant Marine Directorate and the Ports Directorate, which are in charge of maritime affairs, constitute the Algerian Maritime Administration.

2.2.1.1. The Merchant Marine Directorate

This is the Maritime Administration's head office; situated in the capital Algiers, founded in 1962, within the Ministry of Transport. The Merchant Marine Directorate is then competent to elaborate, prepare and propose the adoption of the rules and regulations, to implement and apply the articles in the Maritime Code, particularly the parts pertaining to safety of navigation, safety of life at sea and marine environment protection.

It is composed of the following Sub-Directorate:

a) The Sub-Directorate of Maritime Transport

This Sub-Directorate is in charge of:

- The elaboration and proposal of elements with regard to maritime transport rules and activities.

- The study and proposal of modernization plans regarding maintenance, equipment and national fleet development.

- The Participation in the activities related to international conventions.

- The maritime traffic and the fleet.

- The maritime transport economy.

- The development and participation in the international maritime relations.

b) The Sub-Directorate of Maritime Navigation

This Sub-Directorate is in charge of:

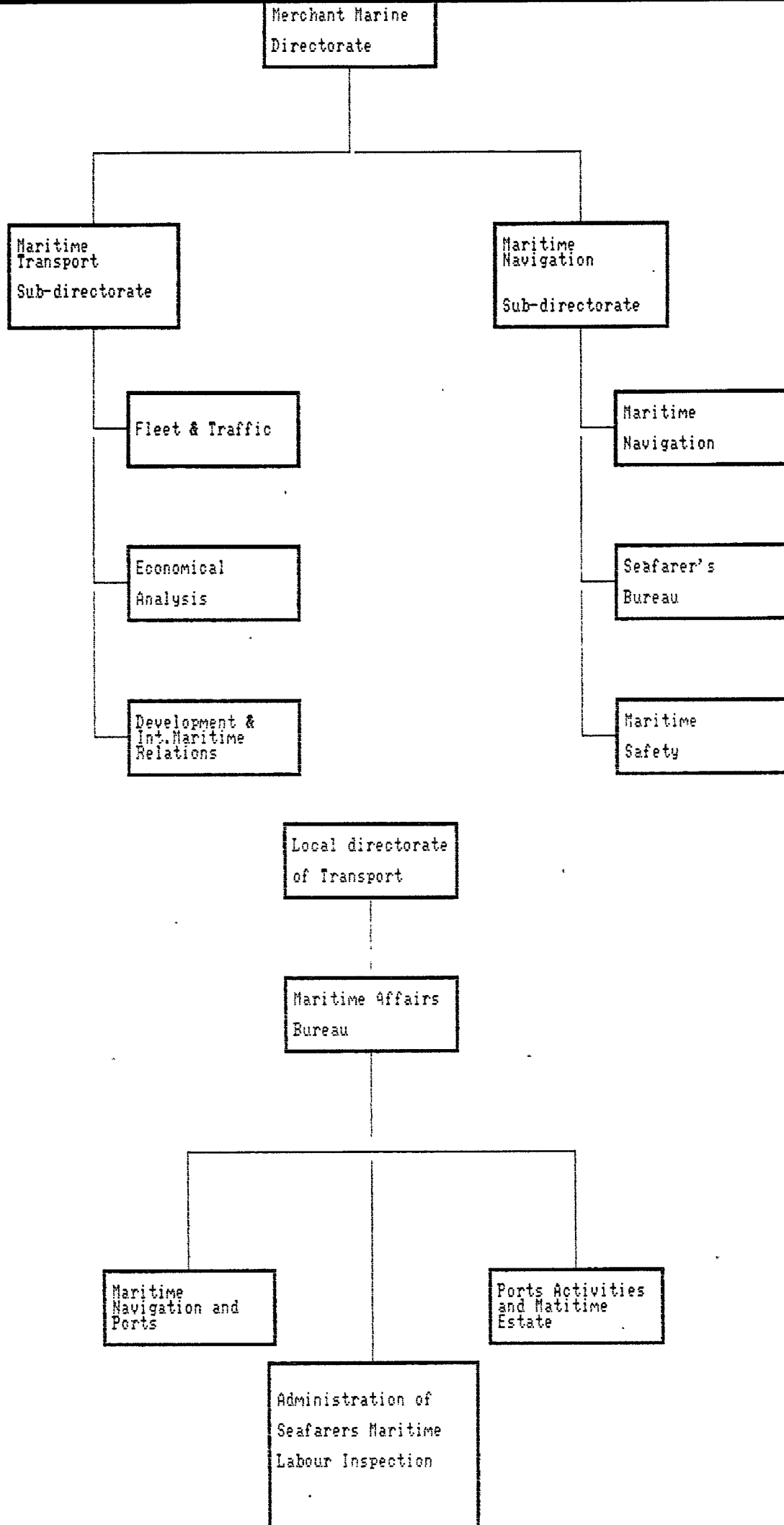
- The elaboration and preparation of the necessary elements relating to regulations of the maritime traffic systems according to national and international legislation.

- The definition of standards of safety of ships and proposal for all measures relating to the safety of navigation.

- The definition of prerequisite applications to the seafaring profession.

- The study of and proposals for professional status of seafarers.

- The study and proposal of programs of development and improvement of the maritime navigation sector.



2.2.1.2. The Ports Directorate

The Ports Directorate is competent to elaborate and propose all elements and guidelines of orientation and determination of the objectives of the national policy in matters of ports and harbours.

The ports Directorate consists of two sub-directorates:

- the Port Exploitation Sub-Directorate, and
- the Port Equipment Sub-Directorate.

Algeria comprises 9 large deep water ports, 3 secondary ports and 13 smaller locations and fishing ports and facilities for recreational boating. They are administered by the Ministry of Transport in cooperation with the Ministry of Agriculture and Fisheries. All ports in Algeria are located within declared public harbours and used for commercial traffic, fishing and recreational boating activities.

The Ministry of Transport, through the Directorate of Ports, ensures the control of these ports.

2.2.2. The Directorate of Transport: (at the local level)

As stated earlier, Algeria is divided into regional administrative entities where almost all the ministries are represented in the executive council of the province (wilaya), which is under the authority of the Interior Ministry.

Since this directorate is situated in each province, (wilaya) it has to obey orders from the Ministry of Transport at the central level, and the Ministry of Interior which, at the local level, is represented by the authority responsible for the province (wali). It is

composed of:

Maritime Affairs Bureau

Its main functions are the working up and control of the application of the regulations relating to:

- The registration of ships,
- The statute and safety of the ship,
- The safety of port exploitation, and
- The recruitment conditions and employment of seafarers, and the standards for the exercise of functions on board ships.

It is also in charge of studying and deciding on all appropriate measures to rationalize and improve the exploitation of the local ports. To accomplish its tasks, this service comprises 3 bureaus which are:

- The Maritime Navigation and Ports Bureau.
- The Administration of Seafarers and Maritime Labour Inspection Bureau.
- The Port Activities and Public Maritime Domain Bureau.

3. The National Service of the Coast Guard.(N.S.C.G)

Since 1962, the year of independence, several organizations originating from different ministries had their own equipment (patrol boats, radio-communications, seafarers) to deal with maritime matters. In 1973, when the Coast Guard National Service was created, all these resources became the property of the N.S.C.G. The main reason was to unify the dispersion of equipment, to enable the rational use of the human and material potential.

Thus, the N.S.C.G. started its activities with a few

boats which were previously under the control of the Maritime Registration Service of the Ministry of Transport, and the Naval Service of Customs of the Ministry of Finance.

Since then the fleet has grown in size and is now well organised and spread over the whole coast in order to accomplish its activities. The patrol ships carry small inflatable speed boats to give the crew freedom of action when confronted with diverse tasks. In addition, all crew members are highly trained to carry out their duties.

One of the most important activities during summer time involves leisure craft traffic which becomes more intense. This creates various types of problems and places a great demand on search and rescue operations.

The Coast Guard National Service contributes to a large extent to the ensurance and control of the safety conditions of ships, the safety of navigation and the protection of the marine environment. This service which is in action round the clock, operating day and night, exercises its activities within the territorial waters and the public maritime domain.

Its main functions are to:

- Enforce laws and regulations relating to maritime navigation, fishing and customs.

- Ensure the maritime policing of the territorial waters and the protection of the natural public maritime domain.

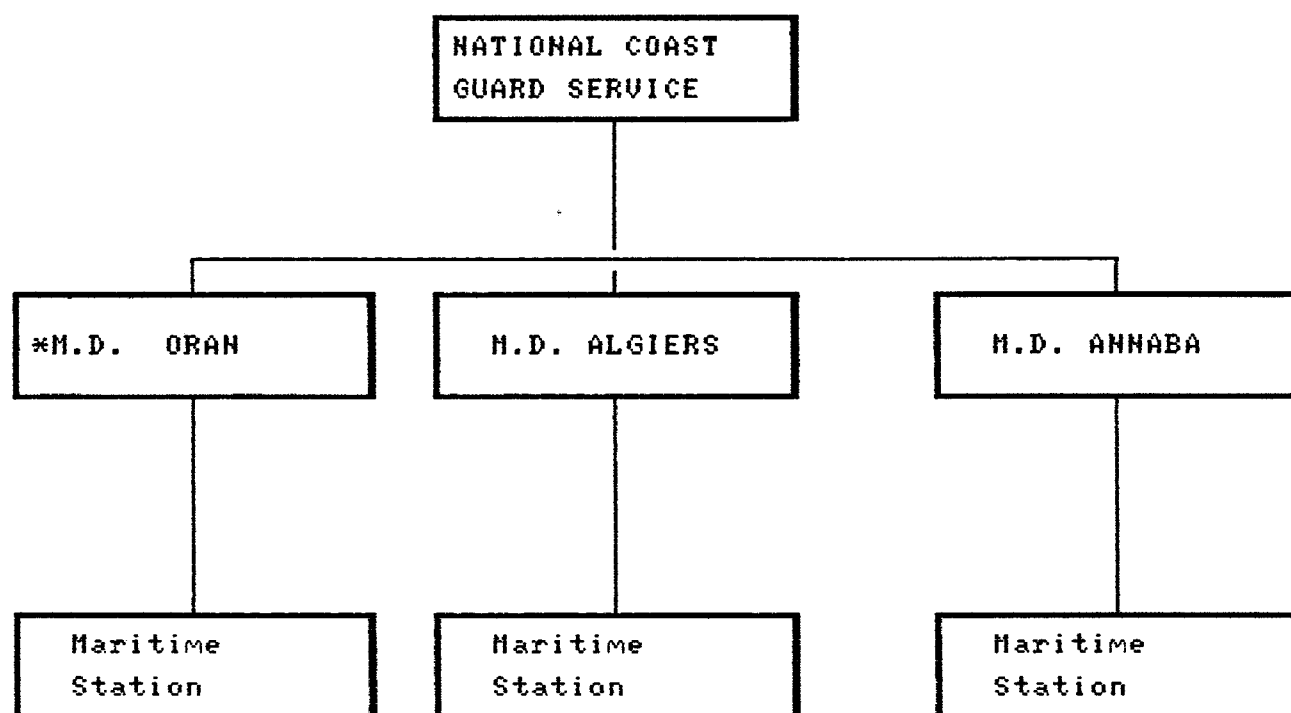
- Ensure the policing of the buoying and sub-marine cables.

- Organize and direct the search and rescue operations in coordination with other services.

- Supervise and control the frontiers at sea.

- Ensure emergency medical transportation.

**ORGANIZATION OF THE NATIONAL COAST GUARD
SERVICE**



-GHAZAQUET
-BENISAF
-ORAN
-ARZEN
-MOSTAGANEM

-ALGIERS
-DELLYS
-TIPAZA
-CHERCHELL
-TENES

-BEJAIA
-JIJEL
-SKIKDA
-ANNABA
-EL-KALA

*:Maritime District



Maritime District



Maritime Station



Main Radio Station

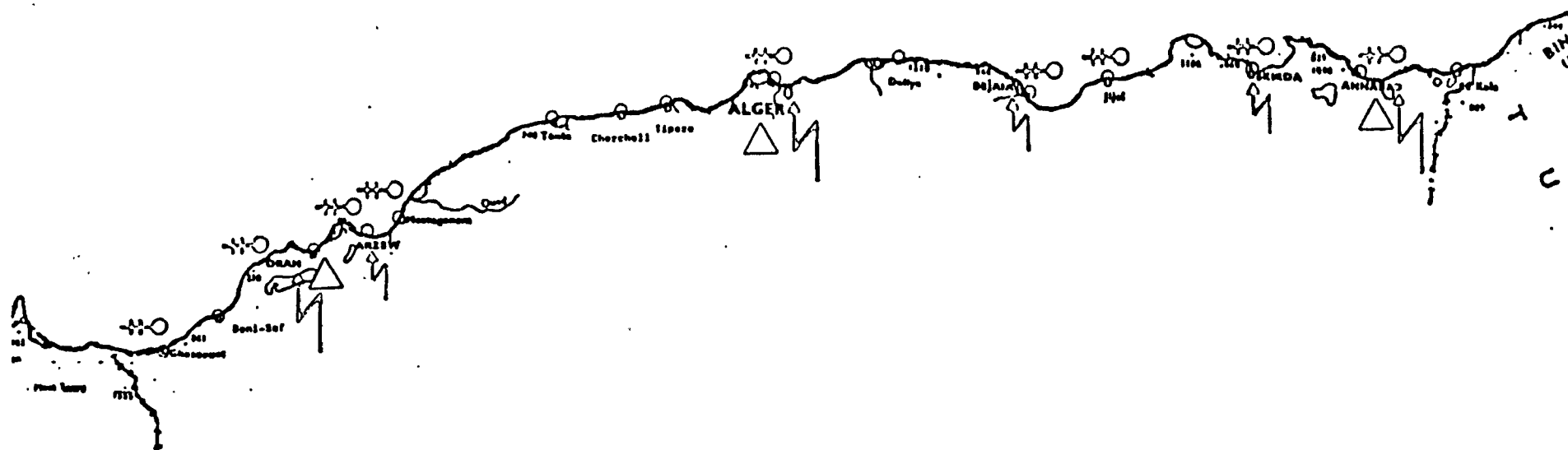


Secondary Radio Station



Towing Service

Assessment of Means in the
Actual Organization



A L G E R I E

-Take environmental protection measures against (pollution by oil, chemicals or radio-active substances)

-Save life at sea.

In addition to these functions, the N.S.C.G was given certain new fields of responsibility previously belonging to the Algerian Maritime Administration.

It now acts at sea on behalf of:

-The Ministry of Transport regarding maritime matters

-The Ministry of Agriculture regarding fisheries.

-The Ministry of Finance regarding customs.

-The Ministry of Justice regarding criminal acts.

-The Ministry of the Environment regarding marine pollution

-The Ministry of Post and Telecommunication regarding sub-marine cables.

-The Ministry of the Public Works regarding the light houses and maritime signals.

To deal well with this range of functions, extensive collaboration is needed to develop clear and concise agreements or memorandum of understanding that will ensure comprehension of the relationship of the organizations and their respective roles and activities needed to achieve common goals.

4. Maritime traffic

Geographically Algeria can be considered as having an important strategic position in the Mediterranean Sea, especially its coastline which is characterized by its length of about 1200 kilometers, consisting of a series of ports of various sizes, among them there are fishing harbours, recreational locations, large and specialized ports (oil and gas terminals, chemical facilities, naval

infrastructures). This coast is often regarded as one of the most attractive and by nature one of the loveliest treasures of Algeria; it cannot be excluded that pollution by oil may happen as a result of an accident.

To illustrate the above, in 1984, 22,789 ships called at Algerian ports, and handled 77,978,406 tons of cargo with 57,042,496 tons of hydrocarbons, condensates, and chemicals (source of information: Ministry of Transport of Algeria). This important number of ships, particularly tankers and gas carriers, can be the source of accidents, which constitute a great danger to the marine environment.

Moreover, the Algerian fleet is composed of short sea voyage vessels operating in the coastal trade, the Mediterranean trade and the West European trade and deep sea vessels operating in the Asian trade, the USA trade, and the Latin American trade.

In addition, the Straits of Gibraltar is considered as a coastal region with a high traffic density. From the Africa Review 1990/91, the flow of traffic through the Straits of Gibraltar was found to be of the order of 100 to 150 ships per day. This density of traffic gives one an idea of the number of ships which are crossing the Algerian coastal zone, considering that the majority of the ships indicated above come from or proceed to the Suez Canal.

From these general considerations, the maritime sector should constitute a major preoccupation of the country in both economic and social terms.

ALGERIAN FLEET AS OF FEBRUARY 1989

(Ships of 300 grt/gt and over)

	No of ships	1000 dwt	1000 grt/gt	1000 nrt/nt
Oil Tankers	17	191.3		
Chemical Carriers	1	3.0		
Liquid Gas Carriers	8	403.4		
Bulk and Ore Carriers	5	126.0		
General Cargo Ships				
single-deck	10	99.0		
multi-deck	30	197.1		
Ferries	6	14.8		
TOTAL	75	946.4	825.5	493.3
World Fleet	33130	615332.5	376663.1	234044.0
% Share of total		0.2		
Rank out of 152		54		

Source ISL merchant fleet data bases. February 1989.

CHAPTER III

COMMENTS

INTRODUCTION

If there are major factors leading to the litigious nature of marine accident inquiries it must be the Rules which govern these proceedings. In particular, it is the purpose of these rules which will eventually determine whether accident investigations are carried out to determine the cause, and only the cause, or are also used to assign blame. If it is the intent to do both, it is quite possible that the goals are not compatible. The questions asked of an inquiry must flow from the Rules, and if the Rules state that blame must be apportioned, or fault found, then the inquiry will do so. It must follow that it becomes a torturous process to determine the actual cause of an accident. Each party is so preoccupied with showing itself in the best possible light and doing its best to place responsibility elsewhere, that the goal of finding the cause and enhancing safety become a secondary issue. If there is negligence or criminal liability, obviously it cannot be overlooked in the name of safety. It is possible however, that these matters should be treated in a different way.

As far as Algeria is concerned, and before examining the conflicts faced by the Maritime Administration, I believe it is worthwhile to discuss the Algerian Maritime Code with respect to accident investigation, as it is the principal legal document dealing with this matter.

From the present situation in Algeria, as described in chapter II, one can easily realize the absence of valid investigation processes.

1. The Algerian Maritime Code.(AMC)

It is not the intention of the author to make an analysis of the entire Maritime Code, although it does relate to vessel safety issues. However, I will review that part of the Code which directly relates to vessel casualties. The first remark I want the reader to observe is that from 887 Articles which comprise the Maritime Code only a few of them are related to vessel casualties, such as the following:

Chapter IV: Casualties

-Section 1: Collision

- 1.1 Definition and general rules.
- 1.2 Damage liability.
- 1.3 Law suit and civil competency.
- 1.4 Penal competency.

-Section 2: Averages .

- 2.1 Definition and classification of averages.
- 2.2 Contribution to general averages.
- 2.3 Settlement of general averages.

-Section 3: Assistance

- 3.1 Definition and general rules.
- 3.2 Remuneration of assistance.
- 3.3 Law suit of payment of remunerations.

-Section 4: Salvage of wrecks.

Chapter III

-Section 1: Paragraph 5: Marine pollution.

In many of its provisions, the Maritime Code refers to some acts which have to be promulgated to complete it.

However, many of them have not been created yet, creating then a legal gap leading to bad interpretations.

Another fact which is no less relevant and which needs to be raised is the conflict of competency resulting from the content in Article 5 of the Maritime Code, regarding the territorial organization. In fact, in that Article the terms, "district" (circonscription) and "maritime stations", are utilized by both the Maritime Administration and the National Service of the Coast Guard (NSCG). Also, Article 529 of the Maritime code opens the gap to a conflict of competency which has always been present, when a marine casualty occurs. In fact the local maritime administration, the coast guard agent under oath, the local police and the gendarmery have always been involved. This situation leads to confusion which might be a threat to a good execution of the missions.

Regarding casualties, the only definition stated in the Maritime Code, refers to collision, ignoring other types of accidents.

In addition, a certain number of international conventions have been ratified (see annex 1) without being included in the Maritime Code. So far as casualties are concerned, the Maritime Code does not cover all investigation aspects needed to be included.

It is also important to mention, that no legislative or regulatory procedures for maritime investigators when conducting judicial missions exist.

1.1 Reporting casualty.

Without complete reporting of accidents and comprehensive investigation, we have no true knowledge of the extent and nature of conditions which downgrade the efficiency of the investigator's work. Consequently,

considering the results of investigations, so many questions could be asked. For instance, what must be reported on occurrence; what must be investigated and to what extent; and what must be formally reported? It seems clear that a great amount of knowledge should be gained, but is lost because no one bothers to ask the simple question "why" ? Experience has shown that if there was no blood spilled, then there was no priority for any action, no assignment of budget and even less interest.

It is important to recognize that each incident, whether or not it results in loss, provides an opportunity to obtain information that could prevent or control a similar future incident that could become an accident.

Studies have revealed that the majority of accidents and incidents are never reported. In fact, they are intentionally hidden to avoid the report. The reason for that could be one of fear of punishment, concern about personal reputation and so on.

The obligation to report shipping accidents is contained in Article 604 of the Maritime Code, but this Article needs clear wording. For instance, "significant accident" is left to the interpretation of the Master. In addition, Article 606 of the Maritime Code appoints the competent authorities which have to receive the report, while the National Service of the Coast Guard, involved in search and rescue and well equipped to join the scene at the first moment of the casualty, does not appear among the authorities listed in that Article 606.

Consequently, a simple question might be asked, what can these other authorities do other than wait for the damaged ship to call at port, provided that she can do so. This then provides the Master with the time he needs (24hours) to structure the report to his best advantage.

1.2 Safety Inspection.

The Maritime Code, when describing the three kinds of inspections, does not take into consideration the foreign ships which call at Algerian national ports. However, a decree made by the Merchant Marine Directorate authorizes the pilot to collect a report made by the Captain for the local Maritime Administration to decide on whether or not the ship will be authorized to enter the port.

It seems evident and difficult to define a substandard ship solely by a list of qualifying defects. For instance, it can be said that if the lifeboats cannot be launched or the emergency fire-pump is inoperable then the ship is considered to be a substandard ship. The detainment of ships can be a consequence of a number of the deficiencies mentioned above.

Presently, the safety inspections are carried out by the Maritime Administration Authority which is competent to deliver the safety certificates. Once again the question remains, who will be in charge of inspecting foreign ships before entering into Algerian ports, in order to avoid any substandard ship operating near the coast.

In general, a ship is regarded as substandard if the hull accommodation, machinery or equipment, such as for life-saving, radio and fire-fighting, is below the standards required by the relevant international conventions (SOLAS, LL, COLREG, ILO regulations and MARPOL.)

Another aspect of safety inspection before a ship leaves port is the term **seaworthy** which has many interpretations. A simple and short one is "seaworthy means the ship is fit for sea." Another meaning which gives better clarification is, "seaworthy means that the

ship is capable of combating and enduring the ordinary perils of the sea on the intended voyage". This last inspection is provided for in Articles 261 and 262 of the Maritime Code including foreign ships. Supervision of seaworthiness is also exercised by the International Classification Societies on ships which are classified by such a society. The activity of the society includes control of newly-built ships as well as older ships which have been newly submitted for classification by the society, also, subsequent control of the seaworthiness of ships by periodic inspection. It should, however, be observed that the examinations carried out by the societies do not include all the items included in the government control procedures and for which the Administration is responsible, as stipulated in the international conventions. Finally, it may be mentioned that most merchant ships are classed. That means a great reduction in the work of government supervision.

1.3 Safety Commission.

From what has been described in the previous chapter, it appears that no one is carrying out accident investigations directed as preventing their occurrence.

Although the Maritime Code does not include accident investigations when clearly defining the responsibilities of the two commissions, the Central Safety Commission (CSC) and the Local Commission of Inspection (LCI), the latter carries out those investigations according to a ministerial decree. It is the Safety Commission which, as a rule, issues the maritime regulations or takes an active part in their issuance. The Safety Commission examines and has the ultimate responsibility for checking a ship's seaworthiness. They also issue, on their own, or through a

classification society, different certificates that confirm the seaworthiness of the ship in various respects. However, an accident can be a sign that the Safety Commission has failed in their efforts to prevent casualties. In other words it is inappropriate that the Safety Commission should investigate accidents which they have had the opportunity of preventing. If the Safety Commission, which has been blamed for the accident, is at the same time the investigation board, it will have to act as both the accused and the accuser.

The Central Safety Commission

What transpires at the national level will depend on the laws of the state. All maritime states should have a body responsible for accident investigations occurring in the maritime milieu. At this point it does not seem to be the prerogative of the Maritime Administration. They develop and enforce marine legislation and would therefore be seen to be investigating themselves by assuming the role of accident investigators.

Deschenes and others have explained quite eloquently why the separation of responsibilities is so important to avoid conflict of interests. However, because of financial restraints placed on administrations today, they may well be limited as to the number of investigators they can employ and the opportunity of having an independent marine board of investigation. It follows that they will not have the necessary expertise with regards to the diverse types of ships that may be under flag.

The Local Commission of Inspection

It should be reemphasized that the LCI is carrying out accident investigations according to a ministerial decree, so the situation is that in law the LCI should investigate accidents, but cannot for two major reasons. The first being that most accidents are never reported to the administration. The second reason is that even if they are reported the administration has by no means the equipment and personnel required to carry out such duties. The question then becomes as to who should carry out accident investigations leading to safer conditions. Must it be done at the owner/operator level and shipboard level, or will it not be done at all. If the Maritime Administration does not carry out such safety oriented accident investigations, and the NSCG does not, no owners and shipboard personnel do not either because they do not have the training, then the question posed is, "Who does?" Sadly, it might be said that no one does.

Thus, the role and aims of the safety commission are not well understood. In addition, the investigations that are carried out are inefficient because of the temporary character which proceeds from the composition of members. It has all too frequently seen different members from one accident to another, or sometimes new faces acting on behalf of some appointed members. This situation leaves a lot to be desired.

Another failure which needs to be raised is that the final work consists only of writing an administrative report to the ministries of the participant members. In fact there is no existing proper maritime judicial structure. A conflict of interest could also appear, when carrying out a safety inspection and an investigation by the same commission. Indeed it is inappropriate that the

authority which delivers certificates will be the same as the one which has withdrawn them in the event of a marine casualty.

1.4 Maritime wrecks.

The consequence of the non-systematic inspection of ships, when they are calling at Algerian ports, is visible in the many maritime wrecks spread over the coastal zone and in the entrance of some ports, creating a danger to safety of navigation in one part, and the likelihood of harm to the marine environment, on the other hand .

In practice, the shipowner, when his ship becomes a wreck, gives notice of abandonment to the insurer considering the ship as a constructive total loss and claims for the insured value.

The Maritime Code, in Article 369, sets down some provisions for maritime wrecks but does not give a complete solution to the conditions of removal. Generally, as these wrecks are in most cases without any value, and payment of the removal expenses can sometimes be very high, these provisions did not have the impact desired and remain without any effect vis-a-vis the shipowner. Therefore, the Maritime Administration has had no other choice than to support the entire expenses itself.

Removal expenses seem to be impossible to cover because in most cases this operation needs specialized companies which are very costly. Thus, these maritime wrecks which continue to accumulate because of the weakness of national law and the paucity of investigations, will probably destroy the scenery as well as the environment in the future. Some examples can be readily seen in the ports of Algiers, Oran and Annaba emphasizing what has been said above.

1.5 Prevention of Marine Pollution

In general terms, the major oil producing countries are not the major users of oil products. This means then that a great deal of oil has to be transported by sea. Algeria is one of those countries which exports hydrocarbons as one of its major resources. However, the increasing use of oil has led to an increase both in the number, and particularly in the size of tankers which call at Algerian ports.

Oil pollution of the sea attracts great public attention, because it is visible and most people encounter it, either first hand on the beaches, or on second hand from pictures on television or in the press once it is a spectacular accident. As a result of an accident, pollution may occur and the hazard of oil, gases and chemicals to the marine environment differ widely. The hazards may even extend beyond the frontiers of the state. (source: Samir Mankabady, volume II, Accidents at sea).

Even with the threat of pollution of the sea, Algeria which is an oil producing country, does not have any plan for preventing and combatting pollution. While some administrations and persons will be involved in some of the functions relating to pollution, the ultimate responsibility for investigation of accidents of pollution within Algerian 's waters and fishing zones does not rest with anybody.

To illustrate what has been stated above, two known cases should be discussed. The first major tanker accident, that of the Torrey Canyon, was in 1967 when it ran aground on rocks off the south west coast of England. The vessel was a complete wreck and about 100,000 tons of

crude oil was lost. This was the world's largest spill until, in March 1978, the supertanker Amoco Cadiz ran aground off the north-west coast of Brittany, France, and lost her cargo of 223,000 tons of crude oil, causing enormous pollution to the beaches there.

The catastrophes proved beyond any doubt that marine pollution was fast becoming a serious problem. The casualties did pose a challenge to IMO and other international organizations directly concerned with environmental protection. In Algeria, the situation appears to be worse. It is evident that the danger from marine pollution is imminent, but adequate preventive and combative measures are not yet taken. Until now, the Maritime Code is still silent on the pollution issue; apart from paragraph 5 which insists more on the shipowner's liabilities for the damage that his ship may cause to the environment, and the liabilities of the shipowners for damage due to oil pollution (see articles 117 to 149 of the M.C.).

2. The Maritime Administration.

Maritime administrations, generally, have a mandate to manage the personnel, the financial resources and infrastructures dedicated to giving life to the maritime laws of the state. The duties and responsibilities which arise from that mandate may include such matters as the registration of ships, maritime search and rescue, combating marine pollution, examination of marine personnel, setting of technical standards for vessels under flag, controlling vessels visiting from other nations, inspection and certification of flag vessels and the investigation of marine related accidents and incidents.

It is in the latter role that the Algerian Administration is viewed as being in a situation of conflict of interest. It arises because within the mandate is the very important role of the development of the legal instruments pertaining to such matters as the construction of vessels, the manning of vessels, and the carriage of lifesaving appliances. If an accident happens, it is followed by the Maritime Administration investigating matters falling within its mandate. In other words, it may mean that the administration is being asked to investigate itself.

From what has been stated above, one understands that the Algerian Maritime Administration is strictly linked to the Algerian Maritime Code and its activities depend mainly on the decrees stated in most of the articles. However, it appears evident that if some lack is noticed in the actual legislation, it has then a direct repercussion on the administrative network. The latter can be summarized as sufficient but not efficient. Therefore, the following remarks will illustrate what has been stated. First of all, there is no hierarchical relationship between the central administration (Ministry of Transport), and the local administration (the Directorate of Transport). There is, in part, only a functional link. In many texts, the terms cooperation and coordination are found, but in reality there is no well knit framework of cooperation and coordination between the concerned services dealing with the marine affairs. The main weakness of the organization is closely linked to the proper understanding of the many maritime activities that need to be attended, and the shortage of well trained personnel in all fields particularly marine investigators.

3. The International concern.

Introduction

The purpose of this section is to show that when an accident occurs many parties may be involved in accident investigation. However, it is not the intention of the author to examine the conflicts that arise between the various parties, but it is worthwhile to list them and to show their role in international shipping, especially when the world of international shipping is a world of conflicting interests. Likewise, all of the conflicting organizations are comprised of people and it is these people who must somehow find a way to separate their business interests from the safety of life issues.

The following order of listing has no special significance and the main purpose of the exercise is to inform those who are not oriented to the ways of international shipping.

3.1. The International Maritime Organization (IMO).

It is a specialized agency of the United Nations. Its main role in international shipping is the promotion of co-operation among member states with respect to setting of technical standards. Such standards relate to construction, stability, safety equipment, seafarers' qualifications etc...It aspires to the twin goals of safer ships and cleaner oceans. SOLAS 1974, as amended, and MARPOL 1973, as amended, are two major examples of how the Organization meets the stated purposes of safety at sea and the prevention of marine pollution respectively. The relevant instruments can be found in annex 2.

3.2 The International Labour Organization (ILO).

Also a specialized agency of the UN, it sets standards for living and working conditions at sea. It is uniquely, a tripartite International Organization and its involvement in labour affairs predates the UN itself. It is also a depository for several major international maritime conventions.

3.3. The International Association of Classification Societies (IACS).

The purposes of IACS are to promote improvement of standards at sea; to promote and cooperate with relevant international and maritime organizations; and to maintain close cooperation with the world's maritime industries. IACS has a permanent representative at the IMO and has consultative status with that organization. Its full members include:

- Bureau Veritas.
- American Bureau of Shipping.
- Lloyd's Register of Shipping.
- Nippon Kaii Kyokai.
- Det Norske Veritas.
- Germanischer Lloyd.
- Polski Rejestr Statkow.
- Registro Italiano Navale.
- USSR Registry of shipping.
- Jugoslavenski Registra of Shipping.
- Korean Register of Shipping.

3.4 The Classification Societies

Most of the ships today are classified by one of these societies. This means that the vessel in question is constructed according to the rules and under the supervision of one of these societies. If it is classified and maintains such classification then it is deemed fit to perform the intended service.

3.5. Protection and Indemnity Insurance (P & I clubs).

The P and I clubs have a very large stake in international shipping. The purpose of such associations is to insure, on a mutual basis, liability and loss incurred by the members in direct connection with the operation of the ships entered. Such liabilities may be in respect of crew, passengers, diversion expenses, stowaways, cargo, collisions, pollution etc...

3.6 The Underwriters.

Professor Edgar Gold tells us that: "the purpose of a marine insurance contract is to reimburse the insured for a loss suffered as a result of the operation of an insured risk." Insurance underwriters are those, who, for a fee, cover the stated risks and reimburse the insured who should suffer loss under the insurance policy. Such underwriters include Lloyds of London, (not to be confused with the Classification Society), and the Institute of London Underwriters. Without marine insurance the shipping world, as it is known today, would not exist.

3.7 Cargo Owners

This should be self evident except to say that on any given voyage there may be one or many cargo owners with interests in the voyage. The cargo owner may also be the shipowner. In this case anyone can be a shipowner, providing that person has some means of obtaining a vessel.

3.8 The Salvors.

It has been accepted, in fact, that a person who prevents damage to, or the destruction of vessels and/or cargo should be entitled to some award.

Salvage may be claimed only if three conditions are met, that is, if there is success, there was danger present, and the salvors actions are voluntary. Anyone might be a salvor but there are professional salvage companies.

These examples of international concern are not by any means exhaustive, but do indicate the number of persons that may become parties to a marine inquiry. The involvement of other parties, such as banks, survivors families, ship's crew, builders, and passengers will only add to the diverse nature of accident inquiry as practiced in many countries today.

CHAPTER IV

SOME PRACTICES AND PROCEDURES

IN OTHER COUNTRIES

INTRODUCTION.

As already indicated in Chapter I, my study also includes also some investigatory practices and procedures of foreign legislation. In order to present useful and complete report and to focus on what should be relevant for Algeria, four different systems, which vary from one country to the other, have been chosen. The countries examined are France, Sweden, the United States of America and Germany (ex Federal Republic of Germany). In other words, the choice of these countries is not arbitrary; to the contrary, each system reviewed has a reason to be included.

Indeed, as I explained earlier in the Background of the Algerian Maritime Administration, one can understand easily that it flows from the old French system. Although a new organization has been established in Algeria since 1973, there are still some influences from the French system. For instance, even if the "Administrateur des Affaires Maritime" does not have a place in the actual Maritime Administration in Algeria. The functions of Maritime Affairs Bureau have been created in order to maintain the same responsibilities carried out by the above indicated "Administrateur des Affaires Maritimes". Among those responsibilities, the maritime accident investigation functions are carried out by the local commission of inspection that is presided over by the head of Maritime Affairs Bureau. I believe that it is inefficient and rather difficult to work under two different systems, which in most cases lead to contradictions and conflicting situations.

The reason for deciding to include the Swedish system in my dissertation was originally a question of logic. Following two years of study in Sweden, it was

inconceivable not to examine the existing system. However, carrying out my research on the Swedish system, I found it more interesting than I had expected. Indeed, in this Nordic system, they have procedures different from those of most of the world in the conduct of accident investigations, because they do not have a preliminary or formal investigation. To summarize, Sweden has seven maritime districts, in each of which a district court is established. When an occurrence of a severe nature arises, a Maritime Declaration is made before one of the seven districts. For each Maritime Declaration the Court appoints special members from a list, which includes the names of at least twenty persons. If such an occurrence has resulted in heavy losses of life or property, the Government may order an investigation to be carried out by a special committee. This short summary closely matches the actual organization of the three districts which are already established in Algeria. In addition, the organization and the working methods of the special committees, which will be explained in further detail, can be very useful.

Turning now to the US system, I can say that most of the activities carried out by the US Coast Guard (USCG) are similar to those carried out by the Algerian Coast Guard National Service (CGNS). This was the main reason to include it in my dissertation. Unlike the USCG, the Algerian CGNS is not a regulatory body, so the conflict of interest does not appear, as the Algerian CGNS is within the Navy and falls under the Ministry of Defense. However, the most relevant practice from the US system is "the action on being notified of a casualty" that I have included in more detail in my proposal.

Regarding the Federal Republic of Germany, the Investigation Board there could be a good example for the

Algerian system, as each Board has a Chairman with a legal background acting as a judge and a nautical expert with a foreign going-master mariner's certificate. They are complemented by three other assessors who are chosen in an ad-hoc capacity by the chairman.

To conclude, I may say that we have not yet reached the level required to discuss conflict of interest and be able to have an independent investigation board within the Ministry of Transport. The real problem facing Algeria is how to make the most efficient use of what we do have at our disposal in managing the existing organization well and establishing valid procedures for investigations carried out by the CGNS of Algeria. That is the purpose of my dissertation.

France

1. Introduction.

The French casualty investigation system is penal rather than oriented towards finding causes. The current "Disciplinary and Penal Code of the Merchant Marine" is still the principal law relating to casualties. Due to the strict secrecy procedures provided by this Code, the possibility of using the process for improving safety is very limited. Following such serious events as the "Amoco Cadiz", a decree was promulgated on 21 January 1981, to allow the conduct of technical and administrative inquiries, to determine the causes and the lessons which can be drawn from them for the purpose of safety.

The investigations are carried out in all cases by employees of the department of Transport (Administrateurs des Affaires Maritimes).

2. Casualties reported and investigated.

Any casualty involving a French ship or foreign ship within French territorial waters must be reported to an "Administrateur des Affaires Maritimes". The investigator carries out a summary inquiry, but he has no powers to question witnesses. Upon consideration of the preliminary facts, the "Administrateur" may proceed to a preliminary inquiry ("instruction") if he can state that there has been an infraction of the Code.

3. Disciplinary and penal aspects.

The main and practically unique purpose of regular investigations is to impose penalties. If a mariner is found guilty, he is subject to having his certificate suspended or revoked, to be obliged to pay a penalty of 500,000 FF and to imprisonment of up to five years.

4. Civil liability.

Since the preliminary inquiry is conducted under very strict rules of secrecy, the participation of person concerned by civil liability is not possible.

Furthermore, contrary to other penal procedures in France, when the case goes to a public penal hearing, no civil party is allowed to intervene and the tribunal has no authority as to damages. In view of these facts, the court record can be used in subsequent common law courts dealing with civil liability.

5. Investigation process and examination of witnesses.

The Administrateur appointed to conduct a preliminary inquiry has all the powers of a magistrate acting as an inquiry judge in criminal cases. He may be assisted by technical people. He questions witnesses under oath (except those who may be charged with an offense), in total secrecy, and without the presence of an advocate. If at the end of his inquiry the Administrateur concludes that there has been no breach of the penal Code, then the file remains secret. If, on the contrary, he finds that there has been a breach, he then issues an order that a formal penal charge be laid down and heard by a commercial maritime tribunal which then proceeds to a public hearing.

6. Reports and their publications.

The report of the Administrateur becomes public only if there is a subsequent hearing. The judgement of the "Tribunal Maritime Commercial" is public. However, both deal mainly with breaches of the Code and are not intended to determine the causes of casualties.

7. Public hearings and procedures.

The "Tribunal Maritime Commercial" is headed by another "Administrateur des Affaires Maritimes" and four additional persons: a magistrate of high court (Tribunal de Grande Instance), a steamship inspector (Inspecteur de la Navigation), a retired foreign going master who has served at least four years as master, and a mariner who must be a peer of the accused. This tribunal has all the powers and qualities of a penal tribunal and it is exceptional in the sense that there is no appeal after its decisions.

8. Conclusion.

As seen above, the principal inquiry system in France is not oriented towards safety recommendations except in particular cases. This is, however, the main role of the commissions created under the new decree. Within one month the members must deliver an interim report to the Minister. The draft of the final report is first submitted on a confidential basis to the parties involved in the casualty, who have one month to formulate comments, after which the report is finalized and sent to the Minister with the supporting documentation.

SWEDEN.

1. Accident Investigation.

Sweden, together with the other Nordic countries, has in principle the same procedures different from most of the world in their conduct of investigating an accident. The major number of countries in the world have adopted the preliminary and formal investigation methods. In this Nordic system one cannot normally talk about preliminary or formal investigations, even though, as will be seen further on, there are similarities.

The investigatory system in Sweden includes three types of investigations, two of which are Maritime declarations (MD); one is an investigation through a special committee, and both regulated by the Swedish Maritime Code (SMC). The third one consists of an investigation carried out by the National Swedish Administration of Shipping and Navigation (NASAN). In addition, it should be mentioned that in accordance with the SMC, the Master of the merchant or fishing vessel shall forward a written report, called a Master's Report, which includes information regarding the accident. However, this report has to be established for certain kinds of accidents listed in the Maritime Code.

2. Master's Report.

A master of a merchant or fishing vessel shall promptly submit a written report to NASAN conforming to the SMC with the following conditions:

-if, in connection with the operation of the vessel, a person has or can be supposed to have died or suffered

serious personal injury;

-if, in some other connection, a member of the vessel's complement has or can be supposed otherwise to have died or suffered serious personal injury;

-if, otherwise than indicated in the above or, a person has or can be supposed to have drowned from the vessel;

-if severe poisoning has or can be supposed to have occurred on board;

-if the vessel has collided with another vessel or has run aground;

-if the vessel has been abandoned at sea;

-if, in connection with the operation of the vessel, considerable damage has or can be supposed to have been caused to the vessel or its cargo, or to any property outside the vessel;

-if considerable shifting of cargo has occurred.

The report is then used by NASAN as the basis for its further investigations. Such a report, which is to be drawn up according to a form issued by NASAN, shall contain a detailed account of the event and other particulars which may guide the determination of its causes.

3. Maritime Declaration (MD).

A Maritime Declaration shall, in principle, be made for any Swedish merchant or fishing vessel when a certain occurrence of a severe nature has arisen (prescribed in SMC). Cargo owners, as well as cargo insurers, can also request an MD in accordance with the SMC. This latter MD is applicable to all kinds of vessels, including foreign vessels trading in Swedish waters. Where a maritime declaration is to be made in Sweden, it shall be made before one of the seven District Courts which have been

designated Maritime Courts

At a maritime declaration hearing the Court shall consist of a presiding judge, learned in law, and of two other persons who shall have knowledge in and experience of shipping and navigation. At least one of them should be a thoroughly experienced ship's officer or engineering officer on board merchant vessels and should have served in such capacity recently. For each maritime declaration the Court shall appoint a special member from a list, annually drawn up for each maritime survey district. The list shall include the names of at least twenty persons. Additional experts, if needed, can be called in accordance with the SMC.

The purpose of a maritime declaration is to explain, as far as possible, the occurrence and causes of an accident and all circumstances which may have contributed to the occurrence.

4. Investigation through a special committee.

If such an occurrence, as referred to in the maritime code has resulted in heavy loss of lives or property, or if for any other reason the investigation is to be particularly extensive or complicated, the Government may order that the occurrence and its causes shall be investigated by a special committee consisting of legal, nautical and technical experts. However, if such an investigatory committee has been appointed, no maritime declaration is needed. In this way, the Swedish Maritime Accident Investigation Commission (SMAIC) came into existence. The Commission, on the one hand, is not to be seen as a permanent investigatory institution. After accomplishing its duty, the commission will be formally dispersed. On the other hand, the commission can be considered as a permanent organization in the sense that

there are always the same members to be appointed in the next commission. One can therefore consider the commission as a standing commission. The commission can, however, not ask a person to testify under oath, as this can be made before a court.

Below, a brief description of this special committee's organization and working methods is to be found:

Working methods of the special committee:

The most important criterion is to make sure that the commission is summoned and starts to function as soon as possible after the occurrence of an accident. To perform this function the members of the commission are always ready with their suitcases packed in order to start work immediately.

For the initial meeting the commission has to assess the kind and extent of the accident in order to call experts if necessary. Co-operation between the commission and Coast Guard, the police authorities, and other authorities is also common. Normally these authorities assist the commission in its work when necessary, but do not intervene in the investigatory work.

Before the hearings start, the commission inspects and investigates the scene of the accident. To establish interviews as soon as possible with personnel involved in the accident is given highest priority. As a rule all crew members are interviewed. Interviews are recorded on tape. As a guide for the interviewer and to assist him in the investigatory work, the commission has established a check list covering different types of accidents.

Organization of the Special Committee:

The commission does not follow any general specific pattern during an investigation, due to the varying

circumstances occurring at each particular accident. However, smaller working groups of experts are often formed to cover the different phases of the investigation. Below is an example of the possible subdivision of working tasks.

Nautical/Operational group.

Clarifies the voyage of the vessel, manning and safety related matters looked upon from the nautical/operational point of view.

Technical group.

The group consists of experts of hull/structure, engine-room, etc...

Weather group.

This group normally consists of meteorologists who cooperate with the nautical group.

Medical group.

This group is responsible for the medical aspects which include identifying of deceased persons.

Investigation report:

The goal of the commission is to complete a preliminary report as soon as possible. This report serves as information for parties involved, for the protection of the public and to prevent a similar accident occurring. The final report consists of three parts: facts, analyses and recommendations. The report is sent to the Minister of Transport and Commissions and a copy forwarded to NASAN and to all other parties involved.

5. Investigation through NASAN.

NASAN is responsible for safety at sea and shall supervise the forwarding of the Master's report and maritime declarations. Matters concerning accident investigations which are going to be investigated by NASAN

are decided by the director of the Maritime Safety Inspectorate (MSI). Within the MSI there is an accident investigation division in charge of accident investigations. When the MSI receives a report of an accident, one surveyor and one investigation officer are designated to start immediately investigating the accident.

6. Other investigations.

When accidents involve navy vessels or state-owned vessels, these are not normally investigated through the above three mentioned procedures. These accidents are usually investigated by the military or civil authority concerned. It should be mentioned here that the police must investigate all accidents at sea where there is suspicion of crime involved. In addition to the official investigations mentioned above there are private investigations (insurance companies regularly investigate accidents at sea).

7. Conclusion.

The dominating investigating function in the majority of countries is to improve safety at sea. Criminal law actions, civil law actions, or disciplinary actions are nearly always included in all systems to a certain extent. The Nordic countries in this context constitute an exception, as no judicial penalties, disciplinary actions or recommendations exist within the normal accident investigation procedure.

United States of America

In the USA, there are two main agencies engaged in Maritime Casualty Investigations. These are:

1. The United States Coast Guard (USCG)
2. The National Transportation Safety Board (NTSB)

The responsibility of marine casualty investigations lies mainly with the USCG, but the NTSB acts as a participant in some of the major accidents.

United States Coast Guard

1. Introduction.

The United States Coast Guard, which falls under the Department of Transportation, is responsible for vessel inspection and certification, licensing and certification of personnel, pilotage, vessel traffic management, regulations and enforcement, search and rescue operations.

The Coast Guard is at all times an Armed Force of the US and is equal in such status to the Army, Navy, Air Force, and Marine Corps. In peace time the Coast Guard serves within the Department of Transportation. During a war, or by Presidential decree, it reports to the Department of the Navy.

The Office of Maritime Safety, which is under the Commandant of the Coast Guard, has five divisions: Inspection, Licensing, Documentation, Investigation and Marine Technical and Hazardous Materials.

Within a specified port area, the investigation section falls under the Officer-In-Charge of Marine Inspection. A senior investigating Officer who has more than one year's experience, is working full time at this task, although in small offices he might be assigned other duties.

To avoid a conflict of interest, many of the activities of the Coast Guard do not fall under the jurisdiction of the officer in command of the port area. However, when a Coast Guard vessel is involved in a collision with another vessel the NTSB will carry out the investigation.

2. Reporting to the Coast Guard.

The owner, agent, master, or person in charge of a US flag vessel or foreign flag vessel in US waters is obliged to report to the nearest USCG Marine Safety or Marine Inspection Office, any casualty which results in any of the following conditions:

- All grounding;
- Losses of propulsion;
- Occurrence materially affecting the vessel's seaworthiness;
- Loss of life;
- Injury causing a person to remain incapacitated for more than 72 hours;
- Any other occurrence where the property damage is in excess of USD 25,000.

The Coast Guard is satisfied with the effectiveness of the reporting system, although there are still problems with fishing vessels, because it is difficult to estimate what percentage of accidents are not reported. For failure to report casualties, it has taken enforcement

action generally by way of the civil penalty procedure.

To facilitate timely reporting to the USCG Commandant and any appropriate agency outside the CG, certain marine accidents have been classed as follows:

1. Significant Marine Casualty,
2. Serious Casualty,
3. Public/Non public vessel casualty,
4. Major Marine Casualty.

3. Action on receipt of information on significant casualty.

As soon as information on the occurrence of a Significant Marine Casualty is received, the Officer-In-Charge of Marine Inspection of the USCG is obliged to inform:

1. The Casualty Review Branch,
2. The Commandant, who informs the NTSB Chairman,
3. The District Commander.

This notification must be based on reliable information and should contain such essentials as:

1. name/s of vessel/s involved,
2. nationality,
3. official number,
4. location of the accident,
5. deaths and serious injuries,
6. nature of the casualty.

4. Disciplinary and penal aspects:

The safety related investigation is separate from the disciplinary process. Disciplinary action is frequently

taken as a result of casualties and for reasons such as, violation of the rules of the road or use of alcohol.

A civil penalty may also be imposed in preference to revocation or suspension proceedings. The amount of the penalty varies with different laws; violations relating to pollution, for instance, may involve penalties of up to USD 100,000 per day.

5. Civil liability

The US Coast Guard casualty investigation system is totally open where all the evidence gathered is accessible to the public and therefore to parties having an interest from the point of view of eventual civil liability claims. The tendency is to recognize more and more people as interested parties, for instance, cargo owners, the shipowner, the charterer, the agent, and unions. Previously there was a rule that Coast Guard reports could not be used in civil litigation (this is still the case for NTSB reports), but that rule was changed and the reports are now admissible before civil courts.

6. Formal investigation.

A formal investigation is held by qualified officers appointed by the district commander taking into account the advantages to be gained and the means available. Some of the main factors to be considered before starting such an inquiry are:

1. to change the Coast Policy or regulations;
2. to highlight problems involving vessel class, equipment, etc...
3. to indicate operational procedures giving safety lessons with broad application.

All formal investigations are open to the public except when classified material affecting national security is being considered.

7. Marine Board Investigations

This is the highest form of formal investigation undertaken by the USCG if the circumstances warrant it. Some of these conditions are:

1. the weight of the preliminary evidence;
2. the significance of the casualty;
3. evidence that safety of life and property will be further enhanced by the lessons to be learned;
4. satisfaction of public interest.

The Board usually consists of two or three members, the senior member being the chairman and the junior the recorder. One is primarily experienced in deck matters, the other has marine engineering experience. Specialists and technical experts may also be designated to assist the board.

8. Preparation of the report.

After all the evidence has been collected, and the witnesses examined until the members of the board are satisfied, the board decides how best to complete the report. After the first draft is circulated, members review it, noting any suggested changes. Then they meet, discuss the changes and produce the final report. The latter, prepared according to the rules, is submitted directly to the commandant.

The National Transportation Safety Board (NTSB).

1. Introduction.

The NTSB, which is an independent agency, has jurisdiction over accidents in all modes of transport. Regulations and a Memorandum of Understanding, between the two agencies, have clarified the conduct and the role of both the NTSB and the USCG. The NTSB, being more strictly a fact finding rather than a regulatory or disciplinary organization, does not use stringent methods of questioning witnesses. Its investigators are not therefore seen as adversaries.

There NTSB also investigates casualties occurring in other modes of transport such as: road, rail, air, and pipelines.

2. Casualties reported.

There no requirements to direct casualty reporting to NTSB. All reports are made to the Coast Guard, which , in turn, advises NTSB in cases falling within the definition of " major marine casualty".

3. Disciplinary and penal aspects.

The NTSB investigations exclude all disciplinary involvement. It does not include any recommendations as to the conduct of individuals in its reports. However, NTSB does not play a role in disciplinary matters.

4. Safety recommendations

These recommendations are really the main goal of NTSB which was created to promote transportation safety by conducting independent accident investigations and by formulating recommendations to improve safety. Such recommendations can be addressed to owners, organizations or governmental agencies.

5. Pleasure craft.

Since the principal jurisdiction of NTSB is in respect to "major marine casualties", it has not been very much involved in pleasure craft accidents, although it has conducted a few small boat investigations where Coast Guard ships were involved.

Federal Republic of Germany

1. Introduction.

The Marine Casualties Investigation Act which entered into force on 1st October 1986 is the source of power for casualty investigation in the FRG. This act removed some of the problems inherent in the old system, and the main change in the new legislation is that the investigating authority will operate under the direct jurisdiction of the federal Ministry of Transport.

2. Purpose of investigation.

The purpose of the investigation is to find the cause of marine accidents in order to avoid similar occurrences in the future. The lessons learned are used for any necessary review and further development of guidelines and rules. There are no investigators as known in other countries, this work being carried out by the Boards themselves. The Boards consist of a Chairman who has to be qualified lawyer with the capacity to sit as a judge, and of four assessors who have to be experts in the various fields concerned in the casualty. The question of conflict of interest does not arise since the Boards are quite independent of the regulatory authority.

3. Casualties reported.

The master, seafarers, pilots, owners, members of

trade unions, classification societies, are required to report to the investigating authority, any casualty of which they have knowledge.

The following conditions are deemed to be casualties and must be reported to the Ministry of Transport:

- unsafe operation of a vessel seriously endangering herself, the persons and property on board, the traffic or the environment;

- serious damage caused or suffered by a vessel or her cargo;

- grounding, foundering, or abandonment of a vessel;

- loss of life;

- failure to render assistance to a vessel in distress

- a marine accident involving an officer having a FRG certificate or licence.

4. The Investigation Board.

It is a state investigation board, fully independent, answerable to the Federal Ministry of Transport only. Each board has a chairman, with a legal background and experience as a judge, and a nautical expert with a foreign going master mariner's certificate. They are complemented by the assessors chosen by the chairman, considering the requirements of the case. These three are from a list of experts prepared by the Ministry, from members of Classification Societies, the shipping industry naval institutions, marine academies, etc...

5. Investigation procedure.

The Board, usually the Chairman himself, conducts its own preliminary investigation, often taking evidence informally. He has power to compel a testimony. After this, a formal investigation is held if deemed necessary. The procedure followed is the same as in an ordinary court; witnesses and experts are examined and cross examined under oath. Hearings are held in public, except under special circumstances. Criminal aspects are handled by the Courts after the investigation report is out. The Boards of Inquiry have the exclusive power to deal with the certificate of ship's officers and with the licences of pilots in serious cases of drug or alcohol abuse, incompetency, or psychological defects. These may be revoked or suspended for up to one year.

6. Civil litigation.

The report may be used in civil litigation, but it is then subject to the normal rules of evidence of the court before which it is introduced. The court determines what weight to give such evidence.

7. Reports.

At the conclusion of a hearing the Board of Inquiry renders a written decision as to the causes and contributory factors of the casualty. It also has to give written reasons when dealing with a certificate. The

reports are public and available to anyone. They identify the ship, the officers and the witnesses. The reports may include safety recommendations and these may be addressed to specific responsible authorities.

CHAPTER V

A PROPOSAL FOR ALGERIA

Introduction

Presently, preliminary inquiries into marine casualties are carried out by the Safety Commissions as stated earlier. The members of these commissions are appointed by the Ministry of Transport to carry out such inquiries on an ad hoc basis. The Safety Commissions are presided over by the Merchant Marine Directorate at the central level and by the Chief of Maritime Affairs Bureau at the local level. The two heads of commissions belong to the Ministry of Transport. However, the Algerian National Service of the Coast Guard (NSCG) which does not carry out any accident investigation, falls within the Navy under the Ministry of Defense. In addition, the NSCG is not a regulatory body.

"Ideally, those who are responsible for, and who are carrying out investigations should be independent of the authority responsible for the establishment and administration of ship safety standards. The reason lying behind this is simply to avoid any possibility of actual or perceived conflict of interest arising and any criticism being levelled to the effect that, in investigating a disaster, the ship safety department has been called upon to investigate some of its own activities which could possibly have had some bearing on the causative factors." (source: the Nautical Institute on the work of Nautical Surveyor 1989).

Even some traditional maritime countries like the United Kingdom, Germany and many others are still debating how to resolve the problem of conflicts of interest. Although it is probably not possible to have an independent authority within the Ministry of Transport, due to financial restraint, the problem could be solved if the NSCG carries out such investigations. However, a basic

manual to initiate the NSCG in an accident investigation process is required in priority. The purpose of what follows is to provide information which can serve as a maritime handbook, or textbook for the Coast Guard Officers in my country. I really hope that this information is found to come up to my expectations as a useful tool in the accident prevention work, even though I know that such a handbook cannot possibly cover every aspect of an accident investigation. I am fully aware that procedures other than those described in the following pages can perhaps be used and may give equivalent results, but, in my opinion the information needed in such a handbook, must reflect some basic requirements. The information which follows is presented as a Manual for Maritime Accident Investigation and is closely patterned on the Marine Casualty Investigation Division Operation Manual of Transport Canada (Edition 2, July 15, 1988).

The maritime manual which is proposed has sections which cover among other things:

1. General considerations
2. Enabling Legislation
3. Preliminary Inquiries
4. Formal Investigations

The second part of my proposal mainly deals with an establishment of a Coast Guard Marine Board of Investigation which includes:

1. Central Marine Board Investigation
2. Regional Marine Board Investigation
3. Local Marine Board Investigation

The third part of my proposal consists of a conclusion and recommendations.

Operations Manual

1. Generality

This manual is promulgated for the use and guidance of a Coast Guard Marine Board of Investigation. The contents of this manual apply to the investigation of all shipping casualties and marine accidents within Algerian jurisdiction, except warships and Coast Guard vessels. The latter kinds of vessels are investigated by a Naval Commission in the case of an accident.

1.1. Definition of casualty investigation

A marine investigation is deemed to be an exhaustive, comprehensive and patient inquiry into the cause of a marine casualty, or into the conduct of ship's officers, with systematic attention to detail and relationship. It is a planned search for facts and evidence through interviews, interrogations, observations, examination of records, and interpretations of physical evidence. It is not an exact science in which all factors can be determined with mathematical certainty.

Purpose: The primary purpose of an investigation is to ascertain the cause of an accident, casualty, or personal misconduct to determine if remedial measures should be taken; and to determine whether any violation of law or regulation has occurred.

1.2. Qualifications of Marine Investigating Officers

Since an appreciable number of casualties involve ocean going ships, it follows that investigating officers should have had practical and, if possible, command experience on such ships. Concerning casualties arising

from mechanical, electrical or structural failure, the investigating officer should be assisted by a technical adviser of appropriate expertise.

1.3. Qualities of Marine Investigating Officers

They should possess certain special qualities, not least of which are: aptitude for doing the work, impartiality, objectivity and diligence, patience and a sense of dedication, not given to hasty judgments. It is essential that an investigating officer maintains a professional attitude towards his work, understands and believes in its purpose. He should at all times be conscious and show respect for the dignity of human beings.

1.4 Readiness of Investigating Officers

He should be always ready to proceed to the scene of a casualty at short notice. For this reason he should always have ready and at hand:

- His identity card;
- A copy of the marine investigating officer's manual;
- A copy of the paragraph (inquiries and investigations rules) of the Maritime code;
- Spare copies of death certificates;
- Spare copies of shipping casualty forms;
- A tape recorder to record testimony;
- A list of telephone numbers needed for his work.

1.5. Source of information - Shipping Casualties and Marine Accidents

The shipping Casualties Reporting Regulations, made pursuant to Article 604 of the Algerian Maritime Code, make mandatory the reporting of shipping casualties and other marine accidents by the master. Reports received in compliance with these regulations are the primary source of information. However, the liaison between Coast Guard Marine Board Investigations, Pilotage and Vessel Traffic Service, Coastal Radio Stations, provides an important source of information.

Investigating officers, when stationed in the field, should establish and encourage their own local sources of information and should keep Headquarters informed of any reports received from such sources.

The whole purpose of establishing these sources is to ensure that no shipping casualties or marine accidents are overlooked or unreported. By close liaison with local shipping agencies, fishing interests, etc., investigators also ensure that they are informed of any ship that is overdue in their area.

2. Enabling Legislation

Under Article (...) of Algerian Maritime Code (AMC) the NSCG Commandant has " throughout Algeria the general superintendence of all matters relating to shipping casualties".

Article (...) of AMC empowers the NSCG to order an investigation into the cause of any accident or any ship whether attended with loss of life or not.

2.1. Shipping Casualties Reporting Regulations

These Regulations, made pursuant to Article 604 of the Algerian Maritime Code, concern the reporting of significant damage to the ship and or cargo, or personal injury on board. However, Article 606 of the AMC which concerns the competent authorities in receiving the previous report, should be amended to include the Algerian NSCG among those authorities.

2.2. Definition of a casualty

Under Article (...) of the Algerian Maritime Code
A shipping casualty shall be deemed to occur
-when any ship is lost, abandoned, stranded or damaged in Algerian waters, or on a voyage to or from a port in Algeria;
-when any ship causes loss or damage to any other ship in Algerian waters;
-when, by reason of any casualty happening to or on board any ship in Algerian waters, loss of life ensues;
-when any loss of life occurs by reason of any casualty happening to or on board any boat belonging to a fishing vessel or other vessel registered or licensed in Algeria;
-when any ship is lost or supposed to have been lost, and any evidence is obtainable in Algeria as to the circumstances under which the ship proceeded to the sea or was last heard of.
-If as a result of such an accident, oil, chemicals, or liquified gases escape into the marine environment.

2.3. Definition of an Accident

Under the same article stated above
In these Regulations (Shipping Casualties Reporting Regulations)

"accident" includes an accident occurring on board a ship as a result of which a person or several persons,

- lose their lives,
- are believed to be missing overboard from a ship,
- sustain bodily injuries serious enough to prevent the resumption of normal duties within one week after medical treatment,
- suffer temporary asphyxiation, or
- suffer electrical shock that results in temporary loss of consciousness.

3. Preliminary Inquiries

This section deals with the main role of the Coast Guard Marine Board of Investigation in the conduct of Preliminary Inquiries into shipping casualties and accidents.

3.1. Purpose of Preliminary Inquiries

(Refer to section 1.1. of this chapter)

3.2. Nature of Preliminary Inquiries

Preliminary Inquiries are closed to the public; proceedings are in camera and no opportunity is given for cross-examination. They are held under the authority of section (...) of the Algerian Maritime Code and rules made thereunder.

The investigating officer, appointed for that purpose by the Commandant of NSCG, may be assisted by another person or persons with special skills or experience. The Preliminary Inquiry should be held as soon as possible after the casualty.

On conclusion of the inquiry, the investigating officer must submit his report to the Commandant of NSCG under section (...) of the AMC.

Mr. Justice Bernier, Chairman of the 1962 Royal Commission on pilotage, described a Preliminary Inquiry as follows:

" The Preliminary Inquiry is not a trial but merely a fact-finding investigation in order to provide the Commandant of NSCG with the factual information required to enable him to decide on what action should be taken."

3.3. Investigating Officer' Identity Cards

All investigating officers are issued individual identity cards bearing their photograph, name and appointment, with a summary of their powers on the reverse side. All investigating officers must carry their identity card when on duty.

Investigators are also advised, when boarding vessels, to carry their letter of appointment ordering them to conduct an investigation into the particular incident.

3.4. Powers of Investigating Officers

Officers appointed by the Commandant of NSCG pursuant to Article (...) of the AMC are vested with wide enabling powers under Article (...) of the same Code. Excluding warships and Coast Guard Vessels, investigating officer may: enter and inspect any premises; compel the attendance of any persons as they think fit to call before them and require answers to their questions; and enforce the production of books, papers and documents as may be required for the purpose of the inquiry.

3.5. Jurisdiction of Investigating Officers

The investigating officers have no authority to inquire into casualties or accidents involving Algerian warships, even when such vessels are involved in a collision with a commercial vessel. Under such circumstances the Preliminary Inquiry would be limited to information from the commercial ship and take into account any report which might be released by the Naval authorities and, should permission be granted by the Navy, to interviews of the warship's crew.

3.6. Procedure on being notified of a casualty.

At the central level: Upon receiving news of a shipping casualty Headquarters shall:

- direct an investigating officer to carry out a preliminary inquiry;
- inform the public prosecutor in the case of a major casualty;
- advise emergency measures in cases of pollution;
- inform any other Coast Guard authorities who may be involved.

At the regional level: if an investigating officer in the field will be the first to be notified of a casualty in his area he shall:

- advise the central level immediately and seek instructions;
- inform the regional commandant (Commandant of the Maritime District), in case of a major casualty;
- maintain close liaison with the Rescue Co-ordination Center for updates on the situation;
- proceed to the scene of the casualty as soon as possible, if directed to carry out a preliminary inquiry;

- take with him appropriate charts of the area, and check list in case of need;

- submit a provisory report if a formal investigation is likely to be held;

- submit the final report as soon as possible.

3.7. Importance of the Early Examination of Witnesses

The early examination of witnesses, while the events are still fresh in their minds, is crucial. The investigating officer must try to be the first to question the witnesses after the casualty, when their testimony is likely to be given more freely and frankly, uninfluenced by the questions of other interested parties.

If the Preliminary Inquiry is unduly delayed, the witnesses might disperse, many to foreign countries outside Algerian Jurisdiction, thus making the gathering of evidence that much more difficult and sometimes impossible. This is particularly important when a Formal Investigation is likely to be held. Once out of the country, witnesses are not likely to return voluntarily.

3.8. Types of Casualties and Pertinent Evidence

The type of information needed to determine the cause of any given casualty depends on the nature of the casualty. Although casualties differ from one to the other, the following checklist is intended to provide a general but not inclusive outline of evidence needed, depending on the nature of the casualty. More detail is to be given in Annex 3.

a) Description and condition of the vessel:

-Name, port of registry, type and size, place built and year.

-Number of lifeboats and description;

-How each lifeboat was carried;

-When each boat was last overhauled;

-What life-saving appliances besides lifeboats were on board, and if in accordance with the rules.

b) Statement of the case:

-A brief outline of the circumstances in which the casualty occurred, including the date, place and outcome.

c) List of witnesses:

-Name, address, phone number, occupation, age, qualifications, when joining the vessel.

d) Narrative of events:

-An account of the circumstances leading to the casualty, and the events following the casualty itself.

e) Investigator's remarks:

-This part should contain the investigating officer's critical observations and opinions based on the facts and his own experience.

f) Conclusions:

-Conclusions as to the cause or most probable cause of the casualty.

g) List of documents:

-The written report and other documents as evidence are sent the Central Marine Board Investigation which will decide on the action which should be taken. Sometimes a formal investigation is decided upon.

4. Formal Investigations

Under Article (...) of AMC, Formal investigations are ordered by the Commandant of the Coast Guard National Service considering the views of the investigator who carried out the inquiry. Once it is decided that a formal investigation is to be held, an order is issued for that purpose.

The role of the Coast Guard Central Marine Board Investigation is both administrative and advisory because makes all the administrative arrangements for a Formal Investigation and because it provides technical assistance, advice and guidance to Board Counsel (Avocat de la Commission).

Unlike Preliminary Inquiries, Formal Investigations are held in public under the control of a judge, assisted by two assessors. The Board Counsel also takes part in the proceedings and represents the public interests by ensuring that all the relevant facts are represented before the court for its consideration.

4.1. Advisory Role

The officer nominated to act as technical advisor assists the Board Counsel throughout the duration of the Formal Investigation. One of the first duties of the technical advisor is to brief the Board Counsel on all aspects of the casualty as determined from the Preliminary Inquiry report. The technical advisor should accompany the Board Counsel and assist with interviews of prospective witnesses.

4.2 Administrative Role

When a Formal Investigation is ordered, the Coast Guard Central Marine Board of Investigation makes the following preparations:

- Arranges, through the Ministry of Justice, for the nomination of a person to be appointed as a Judge;
- Arranges, with the Ministry of Justice for the nomination of a suitable lawyer, experienced in maritime matters, to act as Board Counsel;
- Seeks out and interviews qualified persons to be appointed as Assessors;
- Prepares a letter, informing the Judge of the names of the Assessors and Board Counsel.

Coast Guard Marine Board of Investigation (CGMBI)

It will be very suitable for territorial organization if the new legislation provides for three kinds of marine board investigation, that is, central, regional and local. The responsibilities of these commissions will be defined later in this chapter.

From the description shown earlier in Chapter II, it appears that the National Service of the Coast Guard (N.S.C.G.) is well organised and spread over the whole coast, predisposed to intervene at any moment within the minimum of time. Therefore, for any event or casualty at sea, no one will arrive at the vicinity before the Coast Guard.

Ideally, the best time to investigate a casualty is while it is actually happening. However, this theoretical ideal requires the investigator to be omnipresent; the nearest alternative would be to bring him out to the scene

on the same day, in order to start asking questions immediately, but even this would be impossibly expensive in most cases. In practice, some delay is inevitable, but the longer the time lapse between the event and the actual questioning by the investigator, the more details of the incident will be forgotten.

The Investigator should, however, receive the report as a priority. In addition the N.S.C.G. is dedicated to the promotion of marine safety in general and the safety of life at sea in particular. In pursuit of this objective one of its functions should be the investigation of marine casualties within its jurisdiction.

To further promote and support this activity a specialist marine board of investigation will be established, operating along all the Algerian coasts.

It should be clearly understood that the Coast Guard does not have to conduct investigations to determine civil liability in disputes between private litigants. Rather its investigations are safety related and useable as a means for assessment of civil or criminal penalties.

Under the Maritime Code, the N.S.C.G. will be empowered to order preliminary inquiries and formal investigations into shipping casualties, including accidents on board ship, and the conduct of the ship's officers.

1. The Local Marine Board of Investigation (LMBI)

It will be in charge of investigating casualties within its zone of responsibility (maritime station). For any casualty, an investigator is appointed to conduct a preliminary inquiry which involves the application of declarations and a thorough investigation into all aspects of casualty. Therefore, the investigation authority should

have jurisdiction to investigate all marine casualties.

The field investigator should have the power to:

- Take declarations;
- Enter premises and ships;
- Make necessary examinations;
- Take samples;
- Require the production of documents.

Therefore the Maritime Code has to protect its integrity.

A preliminary inquiry report is made and sent to the Regional Marine Board of Investigation to decide on what further action is required and in particular to determine whether a formal investigation should be held.

2. The Regional Marine Board of Investigation:

It will be in charge of conducting formal inquiries within its zone of responsibility (circonscription).

The Chief of Maritime Affairs Bureau of the Coast Guard District together with technical assessors (Masters, Chief engineers, etc...) initiate action to undertake a preliminary inquiry and direct formal investigations. The Court dealing with maritime cases will produce its findings and take the decisions.

The investigation board, both at the local and regional level, has to be run by qualified investigators. In fact, the investigation of shipping casualties is a highly specialized task and one which can only be carried out effectively by fully trained and experienced personnel possessing qualities such as, attitude for investigative work, impartiality, etc...

A request for a maritime inquiry shall be made to the local court where the maritime inquiry is to be held. After receiving the request, the court shall convene for a time for the hearing of a maritime inquiry. The session

can take place on board if it is deemed desirable by the court. The court shall give notice of the place and time fixed for the hearing to the master, the owner, the cargo owner, and any other interested party as well as to the maritime investigator.

5.3. The Central Marine Board of Investigation. (C.M.B.I.)

In the event of a major shipping casualty occurring in the future, it is necessary to ensure that the investigative personnel arrive on the scene at the earliest opportunity and conduct their investigation as soon as possible. The team which meets at the headquarters of the NSCG is nearly similar to the special committee of the Swedish system. The composition and working group of this special committee has been fully explained in section 4 of the previous chapter.

This Board might be chaired by an experienced Master, assisted by an engineer with adequate experience, and a lawyer with maritime law experience. The work of this board would be to consider all aspects of maritime casualty investigation and produce, within a year a manual to be used by investigators, surveyors etc...in the event of the reportable accident. It should contain, guidelines on :

- The initial information;
- Gathering of evidence;
- Conducting interviews;
- Form of the investigation report ...
(see Annex 4: the accident investigation process.)

Conclusion and Recommendations

This part is a summarized version of selected topics drawn from the previous chapters of this report. The material is presented in the form of short paragraphs for each particular recommendation.

1. Interim implementation of proposals of Chapter V

Anyone aware of the practices of implementing law has to realize that the passage of an act is not a fast process (see process of implementing law chart in Chapter I) therefore I recommend hereafter a casualty investigation system which will have to comply with the present Algerian Maritime Code pursuant to Article 529 and which could therefore be implemented pending the passage of legislation by the National Popular Assembly (NPA).

Although some proposals made in Chapter V will require an act of the NPA, many of them can be implemented immediately in their original form or adapted for the interim situation. In many cases, this could be done simply through administrative decisions. In other cases, they may require amendments of the Maritime Code or even new regulations.

2. Memoranda of understanding

A Memorandum of Understanding between the Merchant Marine Directorate (MMD) and the National Service of the Coast Guard (NSCG) should be effected to provide for the availability of certain of each other's services, such as ship registry, ship plans and inspection data on the part of the MMD, provided, however, that no conflict of

3. Replacement of Safety Commission by the CG Marine Board of Investigation.

The Central Safety Commission and the Local Commission of Inspection do not appear to have valid grounds to continue to carry out accident investigation. However, the change will consist mainly of a redistribution of the safety functions so that there will be a clear distinction between the regulatory and the operational roles, on the one hand, and so that ship safety and investigation should be seen as separate and different functions, on the other hand.

4. Composition of the CG Marine Board of Investigation

In order to achieve good results, the Commission of Investigation should contain regular members, including some experts with knowledge relevant to the type of accident in question. Such expertise should include among others, personnel well acquainted with the damaged ship.

5. Reporting casualties

Marine occurrences should be reported directly to the Investigating Authority (IA) through a comprehensive occurrence reporting system. In this case the IA which operates under the CGMBI, should define through regulation, those casualties, incidents and safety hazards which must be reported. To improve further the safety of lives and property, the IA should determine the contributing factors and causes of marine occurrences, identify safety deficiencies and recommend corrective courses of action.

6. Suggested changes and improvements

-Public guidelines for carrying out investigations to the fullest extent possible should be established and reviewed periodically by the Investigating Authority, which should however, have full discretion in their application.

-No distinction should be made between the investigation of marine occurrences related to fishing vessels and those related to commercial ships.

-A check list approach should be developed to help the Investigating Authority.

-A computerized and flexible data system incorporating all casualty data and other relevant information should be developed and installed as an aid to investigators.

7. Conclusion

I am aware that the main objectives cannot all be attained without legislation. I therefore respectfully urge the NSCG to proceed immediately with the implementation of the proposal dealing with an enabling legislation as described in the Manual in Chapter V.

It is, however, also necessary to enact legislation that will provide for the circumstances in which the administration may conduct inquiries/investigations and prescribe the nature and extent of authority vested in all those charged with responsibilities in such matters. Similarly, to ensure that the Maritime Code will be developmental, regulatory and in compliance with the

relevant International Conventions, the inclusion of all aspects which are not yet provided for is required. It also needs to be clearly and precisely reworded. As far as casualties are concerned, it is highly advisable to define clearly the following items:

- Shipping Casualty;
- Preliminary Inquiry;
- Formal Investigation;
- Casualty Report.

In concluding my proposals, I would like to stress the urgency of creating a national framework (interministerial structure) of cooperation and coordination for safety matters. It is also essential to expand awareness of the understanding memorandum system among all services concerned with maritime affairs. Such a structure may have an advisory role to the Minister in charge of the Merchant Marine in making rules and regulations.

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Algerian Legislation

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Magazines

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2. Africa Review, 1990
3. Proceedings of the Marine Safety Council Vol.48 No 3
Special issues on marine casualty investigation.
4. US Coast Guard, 200 years of service.
5. Sjöfartsverket (Swedish magazine, National Maritime Administration)

Appendix 1

MARITIME SAFETY TREATIES ACCEPTED BY ALGERIA
(as at 30.11.1989)

Convention or other treaty	Entry into force	Type of instrument & date deposited	Entry into force(Algeria)
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IMO Treaties

IMO Convention	170358	Accession, 311063	311063
SOLAS, 1974	250580	Accession, 031183	030283
Amdts, 1981	010984	Tacit Acceptance	010385
Amdts, 1983	010786	Tacit Acceptance	010187
Protocol, 1978	010581	Accession, 031183	030284
COLREG, 1972	150777	Accession, 041076	150777
Amdts, 1981	010683	Tacit Acceptance	010683
Amdts, 1987	191189	Tacit acceptance	191189
FAL, 1965	050367	Acceptance, 281183	270184
Amdts, 1973	020684	Tacit Acceptance	021284
A, Amdts, 1969	120871	Tacit Acceptance	270584
A, Amdts, 1977	310778	Tacit Acceptance	270584
A, Amdts, 1986	011086	Tacit Acceptance	010487
LL, 1966	210768	Accession, 041076	040177
Amdts, 1971	NYIF(*)	Acceptance, 041076	NYIF
TMS, 1969	180782	Accession, 041076	180782
CLC, 1969	190675	Accession, 140674	190675

FUND, 1971	161078	Accession, 020675	161078
INMARSAT, 1976	160779	Signature, 150779	160779
INMARSAT (OA), 1976		Signature, 150779	160779
SAR, 1979	220685	Accession, 050183	220685
STCW, 1978	280484	Accession, 260488	260788
MARPOL, 1973/78			
Annex I	021083	Accession, 310588	310888
Annex II	060487	Accession, 310588	310888
Annex III	NYIF	Accession, 310588	NYIF
Annex IV	NYIF	Accession, 310588	NYIF
Annex V	311289	Accession, 310588	311289
IBC CODE	010786	Mandatory(SOLAS& MARPOL)	010786
IGC CODE	010786	Mandatory(SOLAS)	010786
BCH CODE	060487	Mandatory(MARPOL)	310888

Instruments which are in force or applicable in Algeria because they are not denounced but which are no longer fully operational as they have been superseded by later ratified instruments.

SOLAS, 1948	191152	Acceptance, 200164	200464
SOLAS, 1960	260565	Acceptance, 200164	260565
COLREG, 1960			
Annex B(SOLAS)	260565	Acceptance, 200164	260565
OILPOL, 1954	260758	Acceptance, 200164	200464
Amdts, 1962	280667	Acceptance, 200164	281267

Amdts, 1969	200178	Acceptance, 070676	200778
Amdts, 1971 (GBR)	NYIF	Acceptance, 041076	NYIF
Amdts, 1971	NYIF	Acceptance, 041076	NYIF

ILO Treaties

No 58 (Minimum Age)	091249	Accession	191062
No 68 (Food & Catering)	240357	"	191062
No 69 (Certification Ships' cooks)	220453	"	191062
No 71 (Seafarers' Pensions)	101062	"	191062
No 72 (Vacation Hol- idays with pay)	NYIF	"	191062
No 73 (Medical Examination)	170855	"	191062
No 74 (Certification Able Seamen)	140751	"	191062
No 91 (Paid Vacations)	101062	"	191062
No 92 (Accommodation of Crews)	290153	"	191062

UNEP Treaties

	Entry into force	
	World-wide	Algeria
Protection of the Mediterranean Sea against Pollution, 1976	160278	260180
Protocol (prevention of pollution of the Mediterranean Sea by dumping from ships and airplanes), 1976	160278	170181

Protocol (Cooperation in combating pollution of the Mediterranean Sea by oil and other harmful substances in cases of emergencies), 1976	160378	170181
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WHO Treaty

International Health Regulations, Boston, 1969	010171	010171
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Brussels International Maritime Law Conventions

Unification of certain Rules relating to the Arrest of Sea Going Ships, 1952	240256	180864
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Unification of certain Rules relating to Maritime Liens and Morgages, 1926	020631	130464
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Unification of certain Rules of Law relating to Assistance and Salvage at Sea, 1910	010313	210364
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(*) Not Yet In Force

1. The International obligations.

These are covered by the following:

a) The United Nation Convention on the Law of the Sea 1982.

-Article 94 (7) requires :

each state to hold an inquiry into every marine casualty on the high seas that involves a ship of its flag or that causes loss of life or serious injury to nationals of another state, or causes serious damage to ships or installations of another state, or to the marine environment.

That the flag state and such other state should cooperate in the inquiry.

-Article 223 that:

states conducting the inquiries should facilitate witnesses and evidence be provided by other states or international organizations and should facilitate the attendance of official representatives of any state affected by pollution due to any violation.

b) The SOLAS Convention 1974/78- Chapter I Regulation 21:

-directs each administration to ensure that countries with substantial interest in maritime casualties are permitted to be represented at the inquiries, and to encourage international unified investigation practices;

-recommends that the country conducting the inquiry shall, subject to national rules, allow a representative of a

country with substantial interest to attend and participate in the inquiry.

c) Load Line Convention, 1966, Article 23

-directs each Administration to conduct an investigation of any casualty to any ship for which it is responsible and which is subject to this Convention when such an investigation may assist in improving the Convention;

-the findings of such investigations shall be furnished to IMO without disclosing the identity or nationality of the ship and without disclosing the responsibility of any ship or person.

d) ILO minimum Standards Convention, 1976 (No.147)

Article 2 (g)

' It is also a specialized Agency of the UN, it sets standards for living and working conditions at sea. It is uniquely a tripartite international organization, which is also the depositary for several major maritime international conventions.

e) MARPOL Convention, 1974/78.

Article 12:

Each Administration will conduct an investigation of any casualty to one of its ships subject to the regulations if there is a major deleterious effect upon the marine environment.

Each party to the convention will supply the organization with the findings when such information may assist in making desired changes in the convention.

2. International IMO Guidelines

a) IMO Resolution A 173 (November 28, 1968).

Participation in official inquiries into Maritime casualties:

- intends ensuring that countries with a substantial interest in maritime casualties are permitted to be represented at the inquiries, and to encourage international unified investigation practices;

- recommends that the country conducting the inquiry shall, subject to national rules, allow a representative of a country with substantial interest to attend and participate in the inquiry; and

- this recommendation does not apply to any preliminary or informal inquiry.

b) IMO Resolution A 322 (November 12, 1975).

The conduct of investigations into casualties:

- draws attention to the obligations of contracting Governments to investigate casualties as stated in the convention and to supply IMO with information about the lessons to be learned and the conclusions.

c) IMO Resolution A 147

Report on accidents involving significant spillage of oil:

" The Assembly,...

for the purpose of promoting action by the government concerned in cases of significant spillage of oil following accidents.

Having in mind the recommendation of the conseil of the IMO at its third extraordinary session, recommends to

government that they:

- require masters of all ships to report immediately through the channels which may be found most practicable and adequate under the circumstances, all accidents in which their ships are involved which have given or may give rise to significant spillage of oil. Such reports should, if possible, include details on the nature and degree of pollution, the movement of the oil slick and any other useful information as appropriate.

- Ensure that any such reports received by any authority in the country be forwarded to such an officer or agency with all speed.

- Provide the organization with information concerning the appointment of such an officer or agency for circulation to the government.

d) IMO Resolution A 440 (November 15, 1979)

Exchange of information for investigation into Marine Casualties:

- Urges the Government to cooperate in investigations into marine casualties and to exchange information freely for the purpose of a full appraisal of such casualties.

e) IMO Resolution A 637 (16) (19 October 1989)

Co-operation in Maritime Casualty Investigations:

- Recommends that flag states and states with substantial interest consult early on with regard to conducting a co-ordinated investigation.

-Recommends that states with a substantial interest be permitted to participate in the investigation and be provided with a transcript of proceedings.

f) Torremolinos International Convention for the Safety of Fishing vessels, 1977

-Directs each party to arrange for the investigation of any casualty to any of its vessels subject to the convention, when such an investigation may assist in determining what changes should be made to the convention.

Collision

In addition to the information listed above, the following evidence is needed:

1. general outline of events leading to the collision, from each ship;
2. relative bearing, course, speed and distance of each ship when first detected by the other;
3. true course and speed when first detected;
4. when, how and by whom was each ship detected by the other (i.e. visually or by radar);
5. whether radar plot was kept;
6. weather and visibility conditions at the time;
7. compliance with Collision Regulations;
8. courses, speeds and sound signals made from first "sighting" to moment of collision;
9. radiocommunications between the two ships;
10. persons on the bridge;
11. number of lookouts and where posted;
12. state of watertight doors;
13. point and angle of impact (include sketches and photographs);
14. sketches by witnesses showing relative positions of each ship from first "sighting" to collision;
15. chart of the area showing position of collision;
16. names of vessels in the vicinity and assistance rendered;
17. outcome of collision (degree of damage, fire, loss, etc.);
18. course recorder record;
19. engine movement book or computer read-out;
20. distance of bow from bridge.

Groundings and Strandings

Among the many reasons for groundings are errors in navigation, poor visibility, strong current, and undue reliance on buoys in narrow channels. Evidence is needed on these points, where applicable, and on the following:

1. general outline of events leading to the grounding;
2. last reliable position and how it was obtained;
3. visibility conditions in the hours preceding and up to the moment of grounding;
4. courses and speeds maintained in the hour preceding the grounding;
5. ship's draught;
6. tide and current information;
7. type and condition of radar;
8. charts in use and date of last correction;
9. persons on the bridge;
10. lookouts;
11. sound signals
12. log-book entries;
13. communications with ships nearby;
14. date, time and place of grounding;
15. state of tide at time of grounding;
16. ship's head at time of grounding;
17. name of pilot, if any;
18. damage suffered;
19. soundings, internal and external;
20. nature of assistance, if any;
21. whether the vessel was salvaged or abandoned;
22. extent of pollution;

23. equipment or machinery failure.

Foundering

Foundering, other than those resulting from collisions or groundings, are generally due to heavy weather, shifting cargo, structural failures, explosions and fires in tankers and coal carriers, and liquification of certain types of bulk cargoes with consequent loss of stability.

In the determination of the cause, much will depend on the recollection and objectivity of survivors and other witnesses. The history and known characteristics of the vessel should also be considered.

1. Stability

Where a ship was in ballast, the use, nature and disposition of the ballast should be investigated and stability calculations made. Certain types of ballast have been known to shift in heavy weather. Included in these calculations should be the condition of the ballast, fuel and fresh-water tanks. In case of a loaded ship, the nature, stowage and securing of the cargo should be considered. In the case of bulk cargoes, compliance with relevant regulations should be verified.

2. Structural Failure

This may result from the manner in which the vessel was handled in heavy weather or ice conditions. If the vessel was in ballast, the disposition and use of ballast, and the type and number of ballast tanks may be factors.

3. Explosions and Fires

Explosions on board ship are mostly related to the nature of the cargo carried or last carried. The history of fires and explosions on board coal-carrying ships and tankers is well known. Investigating officers should make themselves familiar with the history and record of such casualties.

Vessels Lost or Missing, Without Trace

When a vessel is lost without trace, establishing what happened is difficult, frustrating and time-consuming. There is little guarantee of success. It requires a great deal of patience; no lead is too small to be

ignored.

However, considerable information may sometimes be gained from a study of the vessel's history, the testimony of persons who have sailed in the ship or have been involved in one way or another with its activities, e.g., agents, stevedores and owners. Any one of them might provide some information on the voyage plan.

Patience and a detailed study of all the known facts can sometimes provide clues as to the most probable cause of the loss. Fortunately, in this age of almost instant communications, the number of unexplained disappearances has decreased.

The following points should be established in an investigation of this kind:

1. date and time of departure from last port;
2. voyage plan and next port of call;
3. estimated date of arrival at next port of call;
4. type of cargo, where and how stowed and secured;
5. radio communications between the ship and her owners or charterers and nature of information;
6. radio contact with other ships during the voyage, with dates and nature of the messages;
7. when, where and by whom the vessel was last sighted, and her condition at the time;
8. names of persons on board;
9. nationality and qualifications of the master;
10. testimony of persons who had sailed on the ship;
11. testimony of persons involved in loading the ship at the last port;
12. reported weather conditions along the route;
13. date and nature of last reported contact with the ship;
14. type of radio equipment carried;
15. any history of equipment failures or structural defects;

16. last reported position of the ship;
17. a check with Lloyds or other marine underwriters;
18. a check with AMVER.

Vessels Lost with No Survivors - Only Bodies and/or Debris Found

Much may be learned about the probable cause of the casualty if bodies are recovered or debris located.

1. Bodies

- a) Autopsies may sometimes reveal the cause of death, e.g., injuries, drowning, fire, explosion or exposure.
- b) The presence or absence of lifejackets on the bodies is a good indication of the suddenness or otherwise with which the casualty occurred.
- c) Watches and clothes found on the bodies may indicate the time that the casualty occurred.

2. Debris

- a) Knowledge of the position where debris was found and identified, along with a study of local currents, drift and recent weather conditions in the area may assist in locating the wreck if the casualty occurred recently.
- b) Once located, and depth of water permitting, the wreck should be inspected by divers for clues as to the possible cause. For example, lifeboats still stowed could give some information on the unexpectedness of the casualty. Signs of hull damage could provide further clues.
- c) The condition of debris also may indicate the nature and suddenness of the disaster. For example, a lifeboat found adrift with all its equipment still secured would indicate that it was not launched but rather floated free.
- d) Debris would also give some indication if there has been any fire on board, etc.

5/03/70

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THE ACCIDENT INVESTIGATION PROCESS

